



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER
EHP90097

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
ROBERTA WAGNER 304-558-0067

RFQ COPY  
TYPE NAME/ADDRESS HERE

SHIP TO

HEALTH AND HUMAN RESOURCES  
 BPH - IMMUNIZATION PROGRAM  
 350 CAPITOL STREET, ROOM 125  
 CHARLESTON, WV  
 25301-3719 304-558-2188

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
06/23/2009				

BID OPENING DATE: 07/23/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		099-00		
<p>TO PROVIDE A PUBLIC HEALTH INFORMATION NETWORK</p> <p>(PHIN) COMPLIANT ELECTRONIC DISEASE SURVEILLANCE SYSTEM THAT WILL ALSO SUPPORT ELECTRONIC LABORATORY REPORTING (ELR), PER THE ATTACHED SPECIFICATIONS.</p> <p>TERM SHALL BE FOR A ONE YEAR PERIOD WITH THE OPTION OF TWO (2), ONE YEAR PERIODS.</p> <p>EXHIBIT 3</p> <p>LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE ON AWARD..... AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GIVING THE DIRECTOR OF PURCHASING 30 DAYS WRITTEN NOTICE.</p> <p>UNLESS SPECIFIC PROVISIONS ARE STIPULATED ELSEWHERE IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.</p> <p>RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE</p>						

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2009 JUL 22 P 12:32

PURCHASING DIVISION  
STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE	TELEPHONE	DATE	
<i>Michael A. Parnell</i>	520-202-3333	7/20/09	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	
President/CEO	86-0605013		

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS  
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

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**INSTRUCTIONS TO BIDDERS**

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130



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 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
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06/23/2009				
BID OPENING DATE: 07/23/2009		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>(1) YEAR PERIODS.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK.)</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p> <p>THE TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT SHALL SUPERSEDE ANY AND ALL SUBSEQUENT TERMS AND CONDITIONS WHICH MAY APPEAR ON ANY ATTACHED PRINTED DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.</p> <p>REV. 05/26/2009</p> <p>INQUIRIES:          WRITTEN QUESTIONS SHALL BE ACCEPTED THROUGH CLOSE OF BUSINESS ON 7/7/2009. QUESTIONS MAY BE SENT VIA USPS, FAX, COURIER OR E-MAIL. IN ORDER TO ASSURE NO</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
<i>Michael S. Pratt</i>	520-202-3333	7 20 09

TITLE	FERN	ADDRESS CHANGES TO BE NOTED ABOVE
President/CEO	86-0605013	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



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 Department of Administration  
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ADDRESS CORRESPONDENCE TO ATTENTION OF:  
 ROBERTA WAGNER  
 304-558-0067

VENDOR

RFQ COPY  
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BID OPENING DATE: 07/23/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
BUYER: ----- RW/FILE 22 ----- RFQ. NO.: ----- EHP90097 ----- BID OPENING DATE: ----- 7/23/2009 ----- BID OPENING TIME: ----- 1:30 PM -----  PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: ----- CONTACT PERSON (PLEASE PRINT CLEARLY): -----  ***** THIS IS THE END OF RFQ EHP90097 ***** TOTAL: _____						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *Michael S. Powell* TELEPHONE: 520-202-3333 DATE: 7/20/09  
 TITLE: Dir. of Procurement FEIN: 86-0605013 ADDRESS CHANGES TO BE NOTED ABOVE



State of West Virginia  
 Department of Administration  
 Purchasing Division  
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**EHP90097**

PAGE  
**1**

ADDRESS CORRESPONDENCE TO ATTENTION OF:  
**ROBERTA WAGNER**  
**304-558-0067**

VENDOR

\*629125826      520-202-3333  
 SCIENTIFIC TECHNOLOGIES CORP  
 4400 E BROADWAYSTE 705

TUCSON AZ 85711

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SHIP TO

HEALTH AND HUMAN RESOURCES  
 BPH - IMMUNIZATION PROGRAM

350 CAPITOL STREET, ROOM 125  
 CHARLESTON, WV  
 25301-3719      304-558-2188

JUL 14 2009

DATE PRINTED <b>07/10/2009</b>	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
BID OPENING DATE: <b>07/23/2009</b>		BID OPENING TIME <b>01:30PM</b>		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
				***** ADDENDUM NO. 1 *****		
1				EHP90097 QUESTIONS AND ANSWERS ATTACHED.		
				***** END OF ADDENDUM NO. 1 *****		
0001	1	JB		099-00		
				TO PROVIDE A PUBLIC HEALTH INFORMATION NETWORK		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE *Michael L. Reparia*      TELEPHONE **520-202-3333**      DATE **7/20/09**  
 TITLE *President/CEO*      FEIN **86 0605013**      ADDRESS CHANGES TO BE NOTED ABOVE  
 NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**Question:**

- 1) RFQ Reference: Requirement # 1.3.5.17

Please clarify the required features of a visual model manager that should be used for easy configuration changes without source code changes. Alternatively, please provide an example of COTS product that includes the required functionality.

**Answer: A Visual model manager is how the state will interact with the system. The graphical user interface (GUI) will allow the state to make modifications to questionnaires, as well as some other system functions without reliance on the vendor to make source code changes. The GUI will make changes to the look of the questionnaire and any other input/output forms.**

- 2) RFQ Reference: Requirement # 1.3.6.7.4

What kind of printed correspondence is expected to be generated by the solution?

**Answer: Microsoft Word - The letter would be worded to request missing data from the investigation form for the disease. The operator should be able to designate the question(s) for which data is needed and this should be pulled into the document.**

- 3) RFQ Reference: Req # 1.3.6.8.2

Does the State already have in place an existing GIS product that can be used by the solution?

**Answer: The state does have an existing GIS product.**

- 4) RFQ Reference: General proposal structure

STC is planning to organize our proposal starting with developing a "Requirements Matrix" table that corresponds to RFQ section 1.3 to show our proposed system's compliance with the stated requirements. We will then address each of the items in Section 1.4. We will indicate our agreement with Section 2.0. And we will provide our quotation as described in Section 3.0 using the Bid Quotation Sheet.

- Should the Bid Quotation be submitted under separate cover from the Technical proposal?

**Answer: No. This is a request for quotation**

- Also, in order to ease developing the Requirements Matrix, would it be possible to get the RFQ in a Microsoft Word document?

**Answer: Purchasing Division has not allowed the distribution of Word documents for a request for quotations.**

- 5) May I please ask if there is an estimated value for a contract resulting from this RFQ?

**Answer: No. We do not provide cost estimates for publicly bid commodities.**

original



WVEDSS

WEST VIRGINIA ELECTRONIC  
DISEASE SURVEILLANCE SYSTEM

WEST VIRGINIA BUREAU FOR PUBLIC HEALTH  
DIVISION OF SURVEILLANCE AND DISEASE CONTROL  
RFQ No. EHP90097

JULY 23 2019

Huntington

Charleston

SCIENTIFIC TECHNOLOGIES CORPORATION  
4400 E. Broadway Blvd., Suite 705

Tucson, AZ 85711  
phone 520.202.3333  
fax 520.202.3340  
www.stchome.com





July 20, 2009

Ms. Roberta Wagner  
Department of Administration  
Purchasing Division  
Building 15  
2019 Washington Street, East  
Charleston, WV 25305-0130

Dear Ms. Wagner and Members of the Selection Committee:

**RE: West Virginia Electronic Disease Surveillance System (WVEDSS), RFQ No. EHP90097**

Scientific Technologies Corporation (STC) is pleased to respond to the State of West Virginia Request for Quotation to provide the State with a Public Health Information Network (PHIN)-compliant electronic disease surveillance system that also supports Electronic Laboratory Reporting (ELR). STC acknowledges receipt of Addendum No. 1, dated July 10, 2009.

STC has been providing surveillance solutions to U.S. state and local public health agencies for over a decade. Our solution includes comprehensive disease reporting and surveillance capabilities around all the standard CDC reportable conditions, including ELR, NETSS Exporting, and PHIN MS. Most recently, we have expanded our solution to include modules for Outbreak Management and integrated TB Case Management.

STC is proposing that the State migrate the current WVEDSS to our new 2009 Sentinel product which replaces the earlier STC EDSS applications, including the current WVEDSS system which STC no longer supports. Added functionality has increased the system's overall capabilities while quality control processes have improved the performance and reduced the number of user identified issues. The new solution and work plan we are proposing for the Sentinel WVEDSS will minimize the risks of the project and move the system to full usage quickly.

This submittal details how the STC Sentinel product will meet the requirements of the WVEDSS and presents our relevant expertise, experience, and professional qualifications.

If additional information is needed, please contact either myself or Laura Smearman at 520.202.3333 or [Michael.Popovich@stchome.com](mailto:Michael.Popovich@stchome.com) / [Laura.Smearman@stchome.com](mailto:Laura.Smearman@stchome.com). Thank you for the opportunity.

Sincerely,

Michael L. Popovich  
President/CEO



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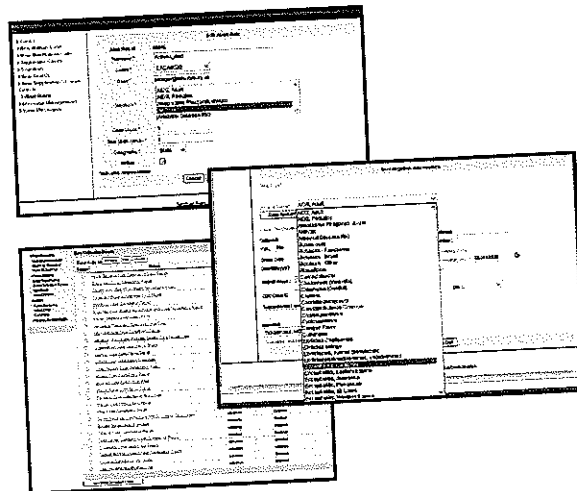
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### 1.3 RESPONSIBILITIES OF THE VENDOR

The vendor will provide an electronic disease surveillance system that meets the following requirements.

#### 1.3.1 System Performance

For your reference and ease of readability, we have organized the requirements of the electronic disease surveillance system into a table matrix included on the following pages, with each requirement from the RFQ itemized and classified to detail how each requirement can be met or cannot be met.

The compliance categories are as follows:

- P = Part of current product
- P+ = Exceeds WV requirement
- C = Custom enhancement
- E = Enhancement through a third party
- D = Currently being developed
- D+ = When developed, end result will exceed WV requirement
- A = Alternate solution
- A+ = Proven highly successful alternate solution
- N = Not supported

“ ... I wanted to let you know that NHDSS 3.3 passed its UAT with flying colors and with high praise from the tester. We very much appreciate the quality of this product and the care that STC devoted to its creation.”

*Brook Dupee, Chief  
Bureau of Public Health Informatics  
NH Dept of Health & Human Services  
5.20.09*



**WVEDSS Requirements Matrix**

STC is proposing to provide our new 2009 Sentinel product. This product replaces the earlier STC EDSS applications such as the current WVEDSS system. Added functionality has increased the overall capabilities. Added quality control processes have improved the performance and reduced the number of user identified issues.

WVEDSS is currently not under a support agreement. Other STC clients who continued to support their older version evolved their systems in order to create a logical migration path to the new system. STC's proposal is centered WVEDSS moving to our new Sentinel system which provides significant enhancements and capabilities over the existing unsupported WVEDSS system, as well as leveraged support alternatives with other STC Sentinel clients. Notably, STC has a Development and Enhancement Roadmap for the immunization registry User Consortium of which the State of West Virginia is a current member.

The following requirements table maps the proposed STC Sentinel solution to the requirements identified in the RFQ:

Compliance Codes	
P	= Part of current product
P+	= Exceeds WV requirement
C	= Custom enhancement
E	= Enhancement through a third party
D	= Currently being developed
D+	= When developed, end result will exceed WV requirement
A	= Alternate solution
A+	= Proven highly successful alternate solution
N	= Not Supported

RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
<b>1.3.1</b>	<b>System Performance</b> The system shall have the following performance attributes:		
1.3.1.1	Response time for any user request should be an average of less than eight (8) seconds; target response time is less than one (1) second. A maximum response time for transactions involving certain long running processes (e.g., reports and exports) should have a target response time of less than two (2) minutes. These requirements must be met in the worst-case scenario – a 128Kb/sec integrated services digital network (ISDN) connection.	P	The proposed solution is built to support response times specified above in the certified environment including limited bandwidth environments with 128Kb/sec ISDN connections. At the same time, STC recommends minimum bandwidth of 256kbps. There are no specific requirements for the technology used to deliver this bandwidth although MPLS Frame Relay or traditional Frame Relay would be highly recommended.  Many factors outside the scope of the proposed solution itself can affect the ability to meet the proposed response times. These



WVEDSS



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.1.2	The system interface should appear the same across all internet connection speeds.	P	The system interfaces included in the proposed solution appear the same across all internet connection speeds.
1.3.1.3	All data field validations should be verified within the user's browser without sending data to the server.	P, A	Within the Sentinel solution, data validation rules are an integral part of data entry. The Sentinel application enforces field validation as needed, and has incorporated other business rules which minimize erroneous data. The majority of field validation rules are performed within the user's browser but some complex business rules that depend on the values of the multiple fields are enforced by the server side logic.
1.3.1.4	A minimum of 250 concurrent users must be supported by the application software.	P	The proposed solution supports the required number of concurrent users.
1.3.1.5	A minimum of 10,000 disease investigations per year must be supported by the application software.	P	The proposed solution supports the required number of disease investigations per year.
1.3.1.6	When there is a new system update, the fully tested update should be delivered within 30 days.	P	The delivery of new versions of the system after its release occurs according to the product rollout plan established by STC and the State Project Managers. The typical delivery schedule is less than 30 days. The state is required to provide a test server on which the release can be initially tested prior to moving into production. Once approved by user testing on the Test system the production rollout plan will include the 30 day requirement.
<b>1.3.2</b>	<b>Security</b> The system shall provide the following security features:		
1.3.2.1	System must retain an access log of when a user logs on, logs out, or his/her session times out. This text log will contain the user's account identifier ID, date, time of logon/logout/timeout and activity type (log in, log out, time out). This log must be stored in Comma Separated Value	P, A	The STC Sentinel solution maintains log of user login and logout activities and configurable session timeouts. The log contains the user's account identifier ID, date, time of logon/logout/timeout, and activity type but the log is stored in XML format instead of CSV format.



WVEDSS



RFQ Reference	Requirement	Compliance P / C / E / D / A / N	Explanation
	(CSV) format and easily accessible for analysis by the system administrator.		Since this requirement is met except for the CSV format, if this is ultimately required a West Virginia funded Change Request would be required as it is not a component of the standard COTS product being offered.
1.3.2.2	System must support strong password functionality that can be configured by the system administrator. These capabilities include the length of passwords, types of characters required (numbers, symbols, uppercase letters, lowercase letters), the password change interval in days, and the user password expiration notification in days.	E	STC recommends this required functionality be implemented with a Single Sign On (SSO) product that can be implemented across the enterprise. Adding this functionality to the EDSS increases the cost and creates a unique system for the users of this system.
1.3.2.3	Must use Advanced encryption standard (AES) or other industry standard of data security through strong encryption, minimum of 128-bit, in all external communication.	P	The proposed solution supports multiple industry standards for data security for all external communication through the extensive use of Java Cryptography Extension (JSE) libraries available in Java platform.
1.3.2.4	System must monitor and report any unauthorized access attempts to the system administrator.	E	See 1.3.2.2.
1.3.2.5	System must support multiple user account status options to minimally include: 'Inactive or locked,' 'Active,' and 'Must change password upon next login.' System should provide an audit log of access changes.	E	See 1.3.2.2.
1.3.2.6	System must alert users to an expiring password based on the user password expiration notification set by the administrator and prompt the user to change their password in advance of expiration.	E	See 1.3.2.2.
1.3.2.7	System must allow users to change their own password after successfully logging into the application and enforce strong password functionality as discussed in 1.3.2.2.	E	See 1.3.2.2.
1.3.2.8	System must support a 'forgotten password' functionality that requires the user to enter their e-mail address account ID. If the ID exists as a valid account that is not inactive or	E	See 1.3.2.2.



WVEDSS



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.2.9	<p>locked, the system will then generate a new, random password that will be e-mailed to the user for a single use. The system will force the user to change this password after successfully logging in.</p> <p>System must allow the system administrator to restrict user account access by system function (query, export, report, etc.), disease condition, facility, and/or jurisdiction. System should provide an audit log of access changes, e.g.: who granted user access, what type of access, user name, date of creation and modification.</p>	P	<p>In the proposed solution, access to specific product features is controlled through the use of permissions. The West Virginia Sentinel system administrator is responsible for setting up user access to the required system functions (such as Reports, NETSS export, Alerts, etc) and specific types of data (such as cases from a certain Facility or Program Area).</p>
1.3.2.10	<p>The vendor will provide system upgrades, patches, and other changes to the application via a secure (login/password) file transfer protocol FTP site that can be accessed only by West Virginia technical staff to obtain appropriate files and documentation.</p>	P	<p>The STC Release Delivery process includes multiple delivery mechanisms, including the ability to obtain the updates and patches using a secure STC FTP site.</p>
1.3.2.11	<p>Any configurations required for the system to be installed and to run on the West Virginia test/training and production databases will be built into the source code provided by the vendor. West Virginia staff will not modify installation and/or configuration files provided by the vendor for either environment.</p>	P	<p>The STC Release Delivery package includes detailed and comprehensive Installation Instructions tailored to specific client environments, including Test/Training and Production environments.</p>
1.3.2.12	<p>The vendor will provide "back out" procedures in the event a version of the application needs to be uninstalled by West Virginia staff.</p>	A	<p>Sentinel as a COTS product does not provide this function. This is an expected West Virginia System Administration responsibility. Specifically, STC recommends WV System Administrators perform backups of database and application environments prior to installation of any new version of the system which allows reinstalling the previous version if necessary. This is similar to the other state COTS products in that vendor applications do not as a rule provide this capability <u>since it increases long term support costs.</u></p>

RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.2.13	System must store all passwords in Advanced encryption standard (AES) or other industry standard encrypted format.	P	The STC Sentinel solution stores all passwords in Advanced encryption standard (AES) compliant format.
1.3.2.14	System must not use schema owner or privileged user (SYS, SYSTEM, etc) to connect to the database.	P	STC recommends avoiding the use of privileged users and system schemas for application data storage. Sentinel fully supports deployment configurations that do not use schema owner or privileged user (SYS, SYSTEM, etc) to connect to the database.
1.3.2.15	System must use least privileged user to connect to database. The user utilized to connect to the database for configuring strong password parameters should not be the same user connecting to the database for other administrative processes and that should not be the same user connecting to the database for update, or the user connecting to the database for query, etc.	A	The proposed solution shares several preconfigured accounts for database connections by all users from the application. In the application itself, each application user has a unique user account with different access rights depending on permissions granted to the user by the Sentinel system administrator. This process has been evaluated to be as effective as the stated requirement.
1.3.2.16	System should be tested to mitigate the Top 25 Most Dangerous Programming Errors as developed by SANS (SysAdmin, Audit, Network, Security) Institute/Mitre Corporation. This may be found in the attached 2009 CWE/SANS (Common Weakness Enumeration) Top 25 Most Dangerous Programming Errors or on-line at <a href="http://cwe.mitre.org/top25">http://cwe.mitre.org/top25</a> . Generate reports detailing any security issues from the top25 list.	P, A	STC testing should address not only these items but also those not listed in the literature. STC applies Software Development methodology that is consistent, proven, and repeatable for delivering public health solutions. The STC Software Development Process is based on industry standards and is supported by tools that ensure the delivery of public health solutions on time and on budget. Software Quality Assurance and Control activities are included in multiple stages of the adopted Software Development Process and while direct testing against the Top 25 Most Dangerous Programming Errors guidelines is not performed, the adopted Test Processes and Test Suites ensure high quality and security of the released software products.
1.3.2.17	There should not be any structured query language (SQL), either static or dynamic, executed on any web page. All queries, inserts and updates should be handled by passing parameters to stored procedures. If not, explain how you	P	The STC Sentinel product is built strictly following industry best practices for architecting and designing web applications, including a multi-tier architecture approach. The compliance with best practices and multi-tier architecture ensures that structured query

RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	will safeguard against SQL injection attacks.		language (SQL) is not executed directly from any web page of the application.
<b>1.3.3</b>	<b>Data Validation</b> The system will always perform the following data validation checks at a minimum:		
1.3.3.1	All dates including but not limited to onset date, report date, date of death, etc. provided in the course of a disease investigation should be equal to or greater than the birth date.	P	The required dates fields validation rules are available in the STC Sentinel solution.
1.3.3.2	After input validation and before leaving the current data entry screen, the system should clearly indicate to or warn the user of any missing or incorrect required data specific to the screen.	P	Sentinel contains numerous data control and edit checks. Any required fields that are not entered will produce an error message when a user attempts to save the data on the page. Missing or/and incorrect data validation rules and related error messages are supported in the Sentinel for each data entry screen. Attempts by users to leave a page before saving data entered will result in a warning message, prompting the user to save first.
1.3.3.3	Any specific disease question validations specified by the system administrator (see 1.3.4.1.3).	P+	The STC Sentinel solution includes the capability of defining disease specific questions as Supplemental Disease Forms. Validation of Sentinel user data entry for the questions is also fully supported in the product but it is limited to single field validations.
1.3.3.4	Measurement units must always be displayed for any question that expects a user response keyed in a specific measurement system.	P	Most of the fields that require specific measuring units are supplemented with the required unit information.
<b>1.3.4</b>	<b>System Administration Functions</b> The system will perform the following system administrator and user management functions:		
1.3.4.1	<i>Disease Condition Management</i>		
	1.3.4.1.1	P	The proposed solution includes disease management utilities that





RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	System must allow the system administrator to define new disease conditions and disease groupings (e.g., food borne) without vendor involvement.		enable the authorized Sentinel user to define new disease conditions or groupings.
1.3.4.1.2	System must allow the system administrator to define new disease condition questions and group these questions into disease-specific questionnaires without vendor involvement.	A, E	<p>STC has learned that the optimal solution for this feature is a 3<sup>rd</sup> party product that allows questionnaires to be built quickly and efficiently. The supplemental form capability within Sentinel is semi-dynamic and STC has found that due to the complexities of the PHIN LDM, in order to integrate the new form with any EDSS product for CDC reporting it is important to establish data base mapping to allow a user to move new data from a new form into a CDC message. As such the Sentinel tool for form creation is managed and maintained by STC staff and database engineers. This minimizes the CDC PHIN reporting risks.</p> <p>The STC proposed solution for a dynamic anybody-can-use form creation tool is being integrated into our new Outbreak Management System (OMS). STC's OMS is currently a fully functional product that meets the CDC NORIS requirements and is being enhanced through efforts including STC's new work in the Southeast Region of the U.S. to add Outbreak Investigation capabilities and hence the form creation tool.</p> <p>STC will not include this tool in the Sentinel product to ensure and maintain compatibility with CDC PHIN. We will include this tool in the Outbreak Investigation component in development. See 1.3.4.1.3.</p>
1.3.4.1.3	System must allow the system administrator to define attributes associated with disease questions. At a minimum, these attributes must include: <ul style="list-style-type: none"> <li>• Value auditing (e.g., tracking of old and new values).</li> <li>• Required fields.</li> <li>• Data types (alphanumeric, numeric).</li> </ul>	E	<p>STC's Outbreak Investigation Module (OIM) will include this feature. At the present time STC is investigating possible 3<sup>rd</sup> party products that achieve this stated requirement. We have examined multiple solutions ranging from the Adobe products, ABBYY FineReader, Cerenade's Visual eForms, Gravic's Remark Web Survey and <i>Microsoft SharePoint Forms</i> server to open source solutions. We will have selected the optimal solution by the 4<sup>th</sup> quarter of</p>





RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.4.2	<p><b>General Functions</b></p> <p>1.3.4.2.1 System must be able to show the number of concurrent users accessing the system at any given time and the maximum number of concurrent users since the system was started in a graphical interface available to the system administrator.</p> <p>1.3.4.2.2 System must be able to broadcast instant messages to users about system problems or general announcements. These messages must be displayed in the application to all active users whenever their session refreshes the browser screen.</p> <p>1.3.4.2.3 System must support a "message of the day" (MOTD) functionality configurable by the system administrator to alert users of upcoming events immediately after user login.</p> <p>1.3.4.2.4 Code and data validation tables will be used whenever possible to facilitate the maintenance of and changes to system operation. West Virginia technical staff should be able to perform most configuration and administrative tasks without any programming. A minimal level of technical</p>		<p>2009 and will begin to integrate it into our OIM development. We have determined that if at all possible a commercial product such as the Microsoft tool should be used. This tool is an enterprise solution that can be used by other public health programs and does not restrict use to just an EDSS. This tool has an evolution path that is separate from CDC PHIN activities which means that it has improved enhancements faster which are more thoroughly tested at far lower costs. STC will not develop our own product and we will not recommend a product that has a limited user base.</p>
1.3.4.2	<p><b>General Functions</b></p> <p>1.3.4.2.1 System must be able to show the number of concurrent users accessing the system at any given time and the maximum number of concurrent users since the system was started in a graphical interface available to the system administrator.</p>	E	<p>See 1.3.2.2 as this should be a core requirement of a COTS SSO. STC is reviewing within our Sentinel Development Roadmap adding a User Dashboard UI that would have this feature. As it is a non-critical CDC PHIN feature it is not currently available.</p>
	<p>1.3.4.2.2 System must be able to broadcast instant messages to users about system problems or general announcements. These messages must be displayed in the application to all active users whenever their session refreshes the browser screen.</p>	P	<p>The STC Sentinel solution includes a "Message of the Day" utility available to the authorized users that allows defining time and content of the messages to be broadcast to the active users of the system.</p>
	<p>1.3.4.2.3 System must support a "message of the day" (MOTD) functionality configurable by the system administrator to alert users of upcoming events immediately after user login.</p>	P	<p>The STC Sentinel "Message of the Day" utility allows defining messages and alerts presented to the user immediately after user login.</p>
	<p>1.3.4.2.4 Code and data validation tables will be used whenever possible to facilitate the maintenance of and changes to system operation. West Virginia technical staff should be able to perform most configuration and administrative tasks without any programming. A minimal level of technical</p>	P	<p>The STC Sentinel solution includes a comprehensive set of administration utilities that allow management of the system configuration and operations by the authorized users without advance technical skills.</p>



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	expertise should be required for customization and maintenance, (e.g., changes to disease questionnaires, changes to look up tables, changes to reports, etc.).		
1.3.4.2.5	The vendor will provide all system installation and related technical documentation – one copy in both paper and electronic formats with rights for state to reproduce and/or modify for specific users.	P	STC provides a comprehensive set of the system documentation in electronic and paper format with Sentinel.
1.3.4.3	<i>Geography and Facility Management</i>		
1.3.4.3.1	System must allow the system administrator to define public health jurisdictions including multi-county jurisdictions and regional county aggregations without vendor involvement.	P	The STC Sentinel solution includes system administration utilities that allow defining public health county jurisdictions and regional county aggregations without involving STC staff.
1.3.4.3.2	System must allow the creation of non-geographic entities to represent private facilities such as hospitals.	P	Creation of non-geographic entities such as hospitals is supported by Sentinel using a Facility Management administration utility available to the authorized users.
1.3.4.3.3	System must allow the assignment of users to non-geographic entities that can share cases within the entity.	P	Sentinel users can be assigned to non-geographic entities that can share cases within the entity.
1.3.4.3.4	System must allow a designated administrator for geographic and non-geographic entities to manage the user accounts assigned to those entities.	P	Sentinel includes hierarchical administration capabilities that allow a designated administrator for geographic and non-geographic entities to manage the user accounts assigned to those entities.
1.3.4.4	<i>User and Role Management</i>		
1.3.4.4.1	System must support the ability to list user accounts and sort this list in ascending and descending order by user ID (e-mail address), account status (active, inactive, etc.), and user role at a minimum.	P	The Sentinel product includes a User Management administration utility that enables the authorized users to view and search user accounts including the ability to sort the list of accounts according to different search criteria.

RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	1.3.4.4.2 System must allow a user (ID) to consist of an e-mail address. User ID and/or e-mail address should not be the primary key and/or foreign keys to any table.	P	Sentinel user ID can be set to user e-mail address. User ID is not used as primary/foreign keys in any product tables.
	1.3.4.4.3 System must support the ability to export the list of user account IDs, account status, and user roles in a (CSV) formatted file.	P	Sentinel includes a utility that allows export user account details to CSV formatted file.
	1.3.4.4.4 System must allow the system administrator to define new role groups or role classes without vendor involvement. For example, one class of roles could be "Public Health" and another "Private Sector."	A	Access control in STC Sentinel is based on the industry standard and the CDC PHIN approved Role-Based Access Control model. System administration utilities available as a part of the product allow defining new roles and assigning a group of roles to each user.
	1.3.4.4.5 System must allow the system administrator to define new user roles without vendor involvement.	P	Sentinel includes a Role Management administration utility that allows the authorized user to define and manage user roles without STC staff intervention.
	1.3.4.4.6 System must allow the system administrator to assign system rights and privileges to user roles and/or role groups without vendor involvement.	P	The required functionality is available in Sentinel as a part of Role Management and User Management utilities.
<b>1.3.5</b>	<b>General System Functions</b> The system must provide the following general functions:		
1.3.5.1	System must guide the user through the desired process by suggesting next steps.	P+	The Sentinel solution and work flow has been developed over the life of the product with direct input and influence by state programs users. As such, the user experience has shown that the UI is intuitive and efficient while allowing the user flexibility to access various modules as needed.
1.3.5.2	System must allow flexibility in the order in which participant data are entered and allow the user to save	P	Sentinel is primarily a menu-based solution, providing flexible access via menus to many capabilities, based on the user's access rights.



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	screen data that may not have all fields completed.		When creating new cases, the user is automatically taken to the next data entry screen for entering primary case details.
1.3.5.3	The user interface must use industry standard navigational methods and offer the user the option of using the mouse, keyboard, or menu navigation.	P	The Sentinel user interface adopts industry standard navigation methods and techniques including easy access to commonly used utilities using mouse, keyboard, and menus to create an efficient user experience.
1.3.5.4	Navigation through each field on a screen must be consistent and in the order of presentation.	P	Sentinel screen fields navigation is consistent with visual layouts of the screens.
1.3.5.5	Fields on input screens should be entirely visible. The system must avoid forcing the user to scroll to see additional information. If the user is forced to scroll to see additional information, there must be instructions on the screen prompting them to do so.	P	Sentinel utilities are designed to minimize the amount of screen scrolling to see additional information by the user. Screens that contain long lists and tables include pagination features.
1.3.5.6	System must clearly indicate to the user what fields are required. Required fields must be configurable by the system administrator.	P, A+	<p>All required fields in Sentinel are clearly marked with color coding and special symbols. During project implementation and deployment of the product, STC project staff works closely with the SA to define the list of required fields and configure them as "required" prior to moving to production.</p> <p>The Sentinel solution does not allow SAs and users to reconfigure fields without STC involvement after the system is in placed in production. <u>Lessons learned have validated that when this occurs database integrity is no longer maintained and in the past this has meant that CDC required reporting is impacted requiring a higher client cost to fix and revalidate with CDC messaging certifications. The concept and marketing message of a product allowing for a SA to universally configure any field is good but the practice is high risk and high cost within a PHIN-based EDSS.</u></p> <p>This is, however, the type of feature that will be included in the STC OIM since CDC reporting is not required, but will not be integrated in the standard Sentinel EDSS COTS product.</p>



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.5.7	System should use attention-focusing features, such as color and highlights, whenever possible.	P	Color coding, highlighting, and other attention focusing features are widely used in the Sentinel solution as long as their use does not violate Section 508 Accessibility Guidelines.
1.3.5.8	System must maintain the same "look and feel" across modules, both in screen and menu design.	P+	Sentinel screens and menus follows consistent "look and feel." Look and feel of the product is customized to include state-specific color scheme, headers, and footers.
1.3.5.9	System should minimize the use of pop-up boxes for input of additional information.	P	The use of pop-up boxes and dialogs is minimized in the Sentinel solution and limited to few specific situations such as critical error warning.
1.3.5.10	The screen elements must include descriptive text on the screen or through the use of "tool tips" that appear when the user hovers over a symbol, icon, or button.	P	Where appropriate, Sentinel screen elements include descriptive text. During project implementation and deployment of the product, STC project staff works closely with the client to define the list of the fields that require further clarifications and customize information about screen elements when it is needed. It is the responsibility of the WV team to define these.
1.3.5.11	The user interface should carry critical investigation information from screen to screen, e.g., patient name, when possible.	P	Critical investigation information is available on all screens of the Sentinel "Case Edit" utility.
1.3.5.12	The user interface will present drop down boxes for selection lists. Lists should be searchable through the use of initial characters.	P	Lists corresponding to the dropdowns on the Sentinel screens are searchable through the use of initial characters.
1.3.5.13	Tabs on tab panels should not re-arrange as the user selects a tab. Placement of tabs should reflect the workflow.	P	The position of the tab panels is not re-arranged as the user selects a tab in the Sentinel product. Placement of tabs reflects typical application usage workflow.
1.3.5.14	System will have an on-line help for all functional areas. The on-line help should be context sensitive, in that it directs the user to the documentation pertaining to the current screen. The on-line help should be searchable by word or phrase.	P	Sentinel includes context sensitive and searchable on-line help that is based on the Robo Help product which has been widely adopted by the industry.
1.3.5.15	All screens must provide the user with a cancel function,	P	All Sentinel utilities include a "Cancel" feature that takes the user



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.5.16	<p>which will take the operator back to a menu or other convenient point. If information has been entered onto the screen, the user will be presented with an option to save the information, if possible.</p> <p>System will be highly configurable by the system administrator. The system administrator must be able to design, develop, and implement new functionality and features without vendor-based assistance or hard coding by the vendor. West Virginia modifications and custom configurations must be maintained if a new version or upgrade is deployed.</p>	P, A	<p>back to a menu or other convenient point. The user is presented with a warning message if the loss of previously entered information is possible as the result of "Cancel" operation execution.</p> <p>During project implementation and deployment of the product, STC project staff works closely with the client to identify and implement the required Sentinel solution customizations to ensure better alignment with the business processes adopted by the State.</p> <p>The "highly configurable" note may be a key issue to understand. STC lessons as discussed above have demonstrated that too much free rein configuration by any users creates CDC Logical Data Model integrity issues that impact CDC PHIN messaging and reporting which leads to higher support costs. Sentinel is configurable prior to moving to production, but thereafter boundaries are established to prevent this very issue. Highly configurable is a marketing term and a user wish phrase that can equate to long term risk and cost if not bounded appropriately. STC believes through our seven years of working with EDSS systems and the CDC that we have structured an optimal solution to this requirement. The STC OIM will have greater configurability than that allowed within Sentinel as mentioned previously.</p>
1.3.5.17	System must be based on a visual model manager for easy configuration changes without source code changes.	C	Not a feature of the proposed COTS solution and not available. This requirement has applicability with an Outbreak Investigation Module such as the Microsoft Sharepoint form builder product being researched by STC.
<b>1.3.6</b>	<b>Disease Investigation Functionality</b> The system must provide the following disease investigation functionality:		
1.3.6.1	<i>Address Functions</i>	P+	Sentinel collects and stores patient work, home, mailing and other addresses separately from the investigation address. Logic for
1.3.6.1.1	System must collect and store patient address separately		



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RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	from investigation address.		assigning investigation address from other addresses collected during public health investigation is customizable in the product.
1.3.6.1.2	System must automatically attempt to assign case to a defined jurisdiction based on the stored patient address, unless an alternate investigation address is specified. If an alternate investigation address is supplied, the system must assign the case to a defined jurisdiction based on the investigation address.	P+	The Sentinel solution includes automatic case assignment capabilities. Case assignment logic takes into account jurisdictions, program areas, and addresses and is customizable to match the adopted business processes.
1.3.6.2	<i>Aggregate Case Collection Capabilities</i>		
1.3.6.2.1	System must support the reporting of aggregate case counts for certain conditions identified by the system administrator by jurisdiction.	P	Aggregate case reporting capabilities are fully supported by Sentinel. The authorized user can define the selected conditions as "aggregate," using the Disease Management utility available in Sentinel.
1.3.6.2.2	System must allow jurisdiction staff to enter and edit current and previous aggregate case counts as needed.	P	Sentinel allows jurisdiction staff to enter and edit current and previous aggregate case counts as needed
1.3.6.3	<i>Auditing Capabilities</i>		
1.3.6.3.1	System must support strong auditing controls. The investigation audit log must track the following events: view, export, modify (with old and new values for all questions where value auditing has been enabled), report, NETSS export, and CDC electronic message with the associated user ID, date, and time that the event occurred. Migrate the NETSS export as the NETSS legacy data format specifications will be replaced with PHIN Message Mapping Guides as they become available.	P	STC's Sentinel solution currently monitors case detail: <ul style="list-style-type: none"> <li>• Adds</li> <li>• Updates</li> <li>• Deletes</li> <li>• Views</li> </ul> User, time stamp, and batch utility details are also collected. The audit log also stores information about NETSS exports and other user activities. The log maintains information about time of the events, user ID, event type and other.
1.3.6.3.2	System must provide access to the audit log in a graphical	P, C	Sentinel includes Audit Search and View utilities and satisfies the core requirement. An audit log CSV export feature is currently not



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	user interface within the system that permits sorting by any field header, printing, and exporting in (CSV) format.		available but it could easily be introduced as a part of the product customization through a Change Request. STC would not recommend this at the present time and would suggest WV offer this within the STC EDSS User Consortium in order to leverage cost of implementation.
	1.3.6.3.3 System must provide a mechanism to mask audit entries created by public health users from non-public health users.	P, A	The ability to specifically mask the audit entries is not a standard COTS Sentinel product feature. However, the audit search features based on the user identity can be used to distinguish between audit entries created by public health users from non-public health users.
1.3.6.4	<i>De-duplication of Patients and Investigations</i>		
	1.3.6.4.1 System must provide automated patient de-duplication functionality to users with appropriate permissions. This function must identify potential duplicate patients and allow the authorized user to choose values from each duplicate patient record to be merged into a new patient record. The system will not automatically merge patients without user review and approval.	P	The STC Sentinel solution includes a comprehensive set of tools for de-duplication, merging and unmerging of patient records, including candidate merge records review queue, merge and unmerge history. De-duplication related features are available to the authorized users only.
	1.3.6.4.2 System must be able to unmerge any patient records that were previously merged, maintaining the data integrity and history of each.	P	Sentinel maintains the history of patient records merges and unmerges. Previously merged records can be unmerged by the authorized user.
	1.3.6.4.3 System must provide automated de-duplication logic to identify investigations that may be for the same patient and disease condition. An authorized user will be presented with a list of possible duplicate investigations for manual review. The user will determine which investigation should replace another.	P+	The Sentinel product includes investigation merge capabilities. An investigation merge algorithm is configurable for each disease condition. The authorized user is presented with a list of possible duplicate investigations for manual review.
	1.3.6.4.4 System must be able to reverse any previous investigation	P	Sentinel maintains a history of investigation replacements and allows reversing of previously replaced investigations.

RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	replacement, maintaining the data integrity and history of each.		
1.3.6.5	<i>General Capabilities</i>		
1.3.6.5.1	System must provide a way to create non-human cases to support investigations (e.g., rabies, West Nile) that may originate with an animal.	P+	The STC Sentinel solution supports non-human cases and allows management of non-human cases investigations.
1.3.6.5.2	System must track legacy question data and make this data available to end users. For example, if a question on a specific disease questionnaire is replaced or dropped, the old question and its associated responses must remain available for query, export, and reporting purposes when accessing data for a timeframe during which the legacy data was relevant.	P	Sentinel supports versioning of condition specific questionnaires and data collected using condition specific questionnaires. Data collected using older versions of questionnaires are stored by the system and available for later access by the authorized user.
1.3.6.5.3	System must provide integrated e-mail alerting and notification functionality with triggers for time, jurisdiction, and disease conditions(s). Authorized users should only receive alerts for cases to which they have access. The alert e-mail must not contain any sensitive information including patient name, address, or disease condition.	P	The required functionality is available in the STC Sentinel product. Alert events are configurable by the authorized users and alert notifications are distributed through e-mails that do not contain any sensitive information.
1.3.6.5.4	The system must provide a warning to a user upon investigation submission if the user will lose access to the case for any reason (out-of-jurisdiction investigation address, user is unauthorized for disease condition, etc.).	P, C	The Sentinel investigation algorithm is configurable to support at least partially this type of requirement. The required warning for the user is not a standard feature and is likely a valid Sentinel User Consortium suggestion.
1.3.6.5.5	System must allow any list presented to the user to be sorted in ascending or descending order by any displayed field by clicking the column header.	P, A	A list presented to the users in Sentinel can be sorted in ascending or descending order by clicking the column header only for the frequently used columns as it was identified by the users of the product.



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	1.3.6.5.6 System must allow any presentation list to be exported in (CSV) format.	P	The STC Sentinel solution supports CSV export of the case and investigation listings and reports included in the standard report suite. The ability to generate CSV exports for other lists is not a current standard feature.
	1.3.6.5.7 System must support multiple case status options including, at a minimum: <ul style="list-style-type: none"> <li>• Confirmed.</li> <li>• Not a Case.</li> <li>• Probable.</li> <li>• Suspect.</li> <li>• Unknown.</li> </ul>	P	The Sentinel product supports the required case classifications (statuses).
	1.3.6.5.8 System must support multiple levels of public health investigation. This includes, at a minimum: <ul style="list-style-type: none"> <li>• Private facilities (such as hospitals and laboratories).</li> <li>• Local public health.</li> <li>• Regional public health.</li> <li>• State public health.</li> </ul>	P	Multiple levels of public health investigations are fully supported by the STC Sentinel solution. The product enforces strict access control rules for accessing each type of investigation only by the authorized users.
1.3.6.6	<i>Notes and File Attachments</i>		
	1.3.6.6.1 System must allow users to attach files of any type to investigations. The maximum file size accepted cannot be less than one (1) megabyte.	P	Sentinel supports multiple attachments of any type to each investigation. The maximum size of the attachments exceeds one (1) megabyte.
	1.3.6.6.2 System must allow users to create investigation notes with a minimum length of 2,500 characters.	P+	The Sentinel solution supports the ability to create multiple investigation notes. The minimum size of the note exceeds 2,500 characters.
	1.3.6.6.3 System must allow the administrator to mask inappropriate	C	Masking of maliciously or mistakenly attached notes and attachments by the authorized user is currently not supported.

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RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	investigation notes or attachments that were maliciously or mistakenly attached to an investigation without vendor involvement.		
	1.3.6.6.4 System must provide a way to mask notes and attachments created by public health users from non-public health users.	P+	In STC's Sentinel, access to the notes and attachments is granted to the authorized users only. Therefore access to the notes and attachments by the public health users can be restricted through the use of the appropriate permissions.
1.3.6.7	<i>Printing Capabilities</i>		
	1.3.6.7.1 System must provide the user with a method of producing a complete printed version of the case investigation with all notes and the filenames of any attachments.	P	Sentinel includes the capability to produce a complete printed version of the case investigation with all notes.
	1.3.6.7.2 System must provide the user with a method to print a completely blank disease questionnaire for field data collection.	P	The ability to print a completely blank disease questionnaire is available in Sentinel.
	1.3.6.7.3 The user should be able to print a case investigation, even if data entry is incomplete.	P	The Sentinel product allows users to print a case investigation report, even if data entry is incomplete.
	1.3.6.7.4 System must be able to generate printed correspondence that can be sent to the following: <ul style="list-style-type: none"> <li>A physician requesting more data about subject.</li> <li>A subject requesting more data.</li> <li>A local health department or other entity requesting more data about subject.</li> </ul>	C	This required feature is currently not available in Sentinel.
1.3.6.8	<i>Spatial Visualization</i>		
	1.3.6.8.1 System must provide integrated address standardization.	P	The STC Sentinel solution supports in-line address geo-coding to determine the latitudes/longitudes. It also enforces address



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	cleaning, and geocoding functionality to accurately map physical addresses to latitude/longitude coordinates.		standardization and cleaning of the address data.
1.3.6.8.2	System must provide integrated, web-base geographic information system (GIS) data visualization/mapping functionality to the end user.	P	Sentinel integrates web-based GIS data visualization capabilities. STC recommends the <i>ESRI 3<sup>rd</sup></i> party product suite.
1.3.6.9	<i>Query Capabilities</i>		
1.3.6.9.1	System must provide an integrated query ability to find, at a minimum, matching investigations by patient name, jurisdiction, facility, disease condition, disease group, investigation status, disease onset date, disease report date, and case status.	P+	The STC Sentinel Case Search functionality has been directly designed by STC clients. The solution includes both a basic "simple" search function and an advanced search function. The search functions allow the user to search, among other fields, based on case details, patient name fields, patient alias fields, patient data of birth/age, patient demographics (sex, race, and ethnicity) fields, patient address and mailing address, and guardian contact details.
1.3.6.9.2	System must provide an integrated disease question query to find matching investigations by using criteria based on disease questions. For example, if a disease questionnaire asks the question "Please select all symptoms below: Diarrhea, Vomiting, Fever, and Trouble Breathing," the user should be able to query that questionnaire for all cases that exhibited vomiting.	P+	The Sentinel solution includes Query-by-Example and Search-by-Example capabilities that allow the user to search on the data collected using disease specific questionnaires using questions from the disease specific questionnaires.
1.3.6.9.3	The results of any query must be exportable in (CSV) format.	P+	In Sentinel the results of any query are exportable in CSV format. The results of Query-By-Example are also exportable in XML format.
1.3.6.9.4	System must allow users to define and store custom queries for easy re-use.	P	Sentinel allows the user to define custom queries. The queries can be saved by the user for future re-use.
1.3.7	<b>Reports and Data Export</b> The system must provide the following report and data export functions:		

WVEDSS



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.7.1	<p><b>CDC Exports</b></p> <p>1.3.7.1.1 System must produce a CDC NETSS compatible file for weekly transmission to the CDC. This would include core and extended record data for specific conditions and the calculation of the correct Morbidity and Mortality Weekly Report (MMWR) week and year based on established CDC algorithms. Please request a copy of the NETSS Record Layout manual, if needed. Migrate the NETSS export as the NETSS legacy data format specifications will be replaced with PHIN Message Mapping Guides as they become available.</p>	P	<p>The STC Sentinel product includes comprehensive reporting capabilities for CDC-compliant NETSS reporting. Generated NETSS exports can include both core and extended record data for specific conditions. Morbidity and Mortality Weekly Report (MMWR) week and year in the NETSS reports are based on the Event Date as it is required by CDC NETSS Export Guidelines. If records are changed or deleted after reported, the subsequent process of generating the file for CDC will account for this change. The updated status is part of the information sent to CDC, keeping the records synchronized.</p>
	<p>1.3.7.1.2 System must be able to produce NETSS deletion and verification records as appropriate. System must migrate to meet the needs of the new PHIN Message Mapping Guides as they become available.</p>	P, D+	<p>In the upcoming release, Sentinel will introduce the support of new CDC PHIN Case Notification reporting using new PHIN Messaging Mapping Guide for exporting Tuberculosis and Varicella data. Tuberculosis data reporting will be available only with the optional Tuberculosis Program Area Module (TB-PAM).  Support for other conditions reporting is expected to be added in the future as the appropriate PHIN Message Mapping Guides become available.</p>
	<p>1.3.7.1.3 System must allow the administrator to define the MMWR week used for the NETSS export as the report date - date that the investigation was entered into the system. Migrate all NETSS functionality as the NETSS application and legacy data format specifications will be replaced with PHIN Message Mapping Guides as they become available.</p>	P	<p>The Sentinel product allows the authorized user to define the MMWR week used for the NETSS export. MMWR week is computed from the available case dates using the Event Date algorithm as defined by the CDC NETSS export guidelines.</p>
	<p>1.3.7.1.4 System must produce electronic messages that are compatible with finalized CDC messaging guides for specific disease conditions. See <a href="http://www.cdc.gov/phim/resources/guides.html">http://www.cdc.gov/phim/resources/guides.html</a>.</p>	P, D	<p>The upcoming Sentinel release will include functionality to produce electronic messages for Tuberculosis and Varicella cases as required by the finalized CDC messaging guides for specific disease conditions. Tuberculosis data reporting will be available only with the optional Tuberculosis Program Area Module (TB-PAM).</p>



RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.7.2	<p><i>General Report and Export Functions</i></p> <p>1.3.7.2.1 System must have an extendable report functionality that allows for the addition of new reports.</p> <p>1.3.7.2.2 System must allow the system administrator to create standard "canned" reports that can be made available to users.</p> <p>1.3.7.2.3 System will restrict access to reports based on user roles.</p> <p>1.3.7.2.4 System must provide screen preview and printer options for all reports.</p> <p>1.3.7.2.5 System will provide the capability to apply suppression rules for minimally aggregated data.</p> <p>1.3.7.2.6 System must provide for the selective export of disease question data by an individual user, restricted by the user's privileges, in (CSV) text formats for further analysis in third party tools.</p> <p>1.3.7.2.7</p>	P, E	<p>Support for other conditions reporting is expected to be added in the future as the appropriate PHIN Message Mapping Guides become available.</p> <p>The STC Sentinel solution includes a standard suite of most frequently used "canned" reports that were developed in close collaboration with the public health community. The standard report suite cannot be extended by the State without STC staff involvement.</p> <p>Functionality required to make the report suite extendable is available only with the optional <i>Crystal Reports</i> product.</p> <p>The required functionality is available only with the optional <i>Crystal Reports</i> product.</p> <p>Access to the standard reports in Sentinel is restricted by the appropriate permissions that can be granted to each user.</p> <p>The required functionality is available only with the optional <i>Crystal Reports</i> product.</p> <p>The required functionality is available only with the optional <i>Crystal Reports</i> product.</p> <p>The Sentinel solution includes functionality that allows export disease question data in CSV and XML formats for further analysis in third party tools.</p>
		P+	Sentinel includes a Query-By-Example utility that allows the export

RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	System must export data and data field names in a human readable form based on the disease questionnaire instead of coded values.		of data and data field names in a human readable form based on the disease.
1.3.7.3	<i>Specific Reports and Exports</i> 1.3.7.3.1 System must support an administrative report that can track timeliness between all levels of investigation and display the average number of days that have elapsed between investigation levels. This report will allow the user to select all or specific jurisdictions, investigation levels, and an onset/report date range and then display the average number of days by disease condition that an investigation is held at each level.	P	The STC Sentinel product includes an administrative report that allows tracking timeliness between all levels of investigation and displays the average number of days that have elapsed between investigation levels.
	1.3.7.3.2 System must also export the specific date data used to calculate the number of days specified in 1.3.7.3.1 for further analysis. For example, an epidemiologist should be able to specify an onset/report date range, disease conditions(s), and jurisdictions(s) and then be presented with a data export in (CSV) format containing the last date that each investigation level handled the case in a line listing with other variables including, at a minimum, investigation ID.	P	An administrative reporting module available as a part of the STC Sentinel product includes the required functionality.
	1.3.7.3.3 System must provide a "line listing" report that can provide all patient demographic information, disease condition, onset and report date, jurisdiction, region, investigation status, and case status in (CSV) format.	P	A "line listing" report that provides detailed investigation and case information including all patient demographic information, disease condition, onset and report date, jurisdiction, region, investigation status, and case status is available in Sentinel. The "line listing" report can be exported in CSV format.
1.3.8	<b>Electronic Laboratory Reporting (ELR)</b> The system must provide the following ELR functionality:		



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RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.8.1	System must be capable of importing Health Level 7 (HL7) 2.3x and 2.5x messages.	P+	Sentinel includes the capability to receive Electronic Laboratory Records (ELRs) via the HL7 v2.3.x and v2.5 standards.
1.3.8.2	System must be easily modifiable to accept future HL7 versions as they are adopted and approved by the CDC.	P+	The Sentinel solution is designed to simplify future extensions in HL7 processing capabilities to support new standards as they are adopted and approved by the CDC.
1.3.8.3	System shall parse all required and any optional data fields as defined by the CDC implementation guidelines as <a href="http://www.cdc.gov/phn/resources/guides.html">http://www.cdc.gov/phn/resources/guides.html</a> .	N	This required feature is currently not available in the STC Sentinel product.
1.3.8.4	System must process all messages received, even if the messages are in HL7 batch format.	P+	Sentinel is capable of processing the incoming HL7 message arriving in batch format from remote clinics and laboratories. The product generates HL7 compliant negative or positive acknowledgement after message processing.
1.3.8.5	System must support Logical Observation Identifiers, Names and Codes (LOINC) and Systematized Nomenclature of Medicine (SNOMED) code assignments by individual facility.	P+	The Sentinel solution supports assignments of Logical Observation Identifiers, Names and Codes (LOINC) and Systematized Nomenclature of Medicine (SNOMED) codex by individual facility.
1.3.8.6	System must support local code assignments by each facility.	P+	Sentinel supports assignments of local codes by individual facility.
1.3.8.7	System must allow the system administrator to view, modify, and remove LOINC, SNOMED, and local facility code assignments without vendor intervention.	P+	The STC Sentinel product includes a utility to allow the authorized user to manage LOINC, SNOMED, and local facility code assignments without STC staff intervention. The available utilities also support export and import of the individual code maps to and from Sentinel in CSV format.
1.3.8.8	System must possess logic to identify problematic HL7 messages and present them for human review without detriment to system stability. The system will notify a designated user or users if a message cannot be parsed and hold the message in a separate queue for viewing to determine and resolve the problem, if possible. For example, messages that do not comply with HL7 syntax or have missing or unrecognized LOINC, SNOMED, or local facility codes should be manually reviewed.	P+	Sentinel presents problematic HL7 messages for human review by placing them in the specialized review queue. The queue is accessible by the authorized users only. Human reviewer has multiple tools that assist him/her in processing the problematic message if information in the message is recoverable.

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RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.8.9	System must possess logic to identify ELR messages that could be associated with existing investigations. An authorized user will be able to view these messages and process them as the start of a new case investigation or append them to an existing case as a secondary laboratory report.	P+, A	The Sentinel solution includes Adaptive Mapping utility that allows defining rules for associating the incoming ELR messages with the existing investigations or creating a new investigation in response to the arrived message. After configuring the rules using the Adaptive Mapping configuration utility, the processing of the incoming ELR messages is performed automatically by the system without human intervention. Human intervention is required only for messages that contain errors or do not match the preconfigured rules.
1.3.8.10	System must identify duplicate ELR messages and send a notice to a designated user or users that a message has been received and is awaiting manual disposition.	P, A	Sentinel includes functionality to identify duplicate ELR messages. The designated user is notified about duplicate messages and the appropriate entry is created in the system audit log. The duplicate HL7 message is placed in the log of the incoming HL7 messages and is available for future processing if desirable.
1.3.8.11	System must be able to send a notification to the message sender through Public Health Information Network Messaging System (PHINMS) that messages were received and parsed or rejected.	P	The Sentinel product distribution includes a PHINMS compliant receiver that can be deployed in the existing PHINMS installation to ensure reliable message transfer between PHINMS and Sentinel.
1.3.8.12	System must be able to poll folders to retrieve ELR messages.	P	The proposed solution is capable of supporting the required functionality while it is used with the optional STC DIPLOMAT product.
1.3.8.13	System must integrate with CDC's PHINMS and Rhapsody/Message Subscription Service (MSS) for message receipt and acknowledgement.	P, N	Currently available functionality is limited to integration with the CDC PHINMS product. Integration with Rhapsody/Message Subscription Service (MSS) is currently not available in Sentinel.
1.3.8.14	System must retain a log of all ELR transactions and the ultimate result of the transaction (successfully imported, error, manual review), etc. This log will be readily available in (CSV) format to the system administrator for review and analysis.	C	Sentinel maintains a log of all ELR transactions. The log is searchable by the authorized users. Currently the ultimate result of the transaction (successfully imported, error, manual review) is not available in the log.





RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.8.15	System must allow alerts to be generated informing appropriate users that new cases have been received via ELR.	P	The STC Sentinel solution can notify the user through e-mail when the case is created via ELR.
1.3.8.16	Once an HL7 message is processed, information from this message must automatically populate the appropriate disease questionnaire for that disease condition with all available information.	P, A	During processing of the incoming HL7 message, currently Sentinel populates only core fields in the investigation. Optional fields available in the disease questionnaire are not populated.
1.3.8.17	System must only display ELR message content to those users who are approved to view that content based on disease condition restrictions (e.g., a user authorized to view food borne disease conditions should never be able to view a tuberculosis lab report even if it is associated with a patient that also has a food borne condition).	P, C	Currently access control rules implemented in the STC Sentinel product enforce user access rights on the investigation and case level, not on laboratory reports
<b>1.3.9</b>	<b>Installation and Training</b> Conduct necessary installation and training for the implementation of the electronic disease surveillance system:		
1.3.9.1	The vendor will provide planning and implementation services as necessary.	P	STC is proposing to implement the WVEDSS. STC's lengthy experience and knowledgeable staff are fully capable of providing all planning and implementation services for the system to achieve a turnkey implementation. STC will work with the WV DSDC or other vendors as needed at the direction of the WV DSDC to achieve the project outcome desired by the WV DSDC.
1.3.9.2	The successful vendor must demonstrate the ability to import legacy NETSS data into the system.	P+	STC has successfully completed import of the legacy NETSS data to Sentinel for several existing clients. STC will work in close collaboration with the WV DSDC to define and validate import rules. This is a continuous requirement and is included in the standard support agreements. STC has strong ties to the CDC PHIN team and we are universally aware of upcoming changes well in advance of their release by CDC. Often our clients are the first to report and set the standard for other states.





RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
1.3.9.3	The vendor must provide a mechanism to import and map existing WVEDSS data into the new system.	P	In the majority of STC's Sentinel implementations, legacy data is converted to conform to the STC database. STC will provide multiple opportunities for the designated WV project staff to review both the iterative data mapping as well as test data set prior to the production data conversion. Business rules governing data mapping will be identified and resolved through the conversion process.  As part of this work, STC will produce a data conversion plan that includes all steps, tasks, activities, events, milestones, and resources necessary for the conversion process and identify the party responsible for each activity.
1.3.9.4	The vendor will train 25 state and regional personnel in system administration and user functions. A training room facility with computer workstations will be provided on-site.	P+	STC will train on-site and leverage both our public health staff and our PHIN development staff. STC training has consistently been ranked as the standard in the industry for EDSS.
1.3.9.5	The vendor must provide detailed installation, administration, user manuals, a data dictionary, and an entity relationship diagram, one copy of each in paper and electronic formats with rights for the state to reproduce and/or modify based on need.	P	STC will provide all required documentation deliverables for the COTS Sentinel solution including administration, user manuals, a data dictionary, and an entity relationship diagram for the Sentinel database.
<b>1.3.10</b>	<b>Maintenance and Technical Support</b> Provide maintenance and technical support services for the electronic disease surveillance system:		
1.3.10.1	Provide annual maintenance support services to include all necessary software patches/fixes, updates due to changes in legal requirements, and any increased functionality brought about by the above. Maintenance costs should be included in the proposal for the first year and provided separately for years two and three.	P	STC provides on-going support and maintenance. This is an annual cost and is included in the cost proposal.
1.3.10.2	Provide technical support services for the system to DSDC personnel. Technical support should be included in the proposal for the first year and provided separately for years	P	STC's Sentinel solution can easily be supported by a limited number of DSDC Help Desk staff if end-users are effectively trained. STC will be 1 <sup>st</sup> -tier support during Acceptance Testing and the Pilot Phase of

RFQ Reference	Requirement	Compliance P / C / E D / A / N	Explanation
	two through three by year. Telephone support services shall be provided within 4 business hours, Monday through Friday, 8:30am to 5:00pm Eastern time, excluding US federal holidays.		the project. As the solution is deployed more broadly across the State, STC will revert to the 2 <sup>nd</sup> -tier Help Desk provider. As 2nd tier Help Desk provider, STC operates a Help Desk and will respond to calls, faxes, and electronic correspondences related to the licensed software listed in the Maintenance Fee Schedule. The Help Desk will be available Monday to Friday between 8:00am to 7:00pm Eastern Time, except on STC holidays. Technical Support and/or Emergency Response Services are available outside of the Standard Help Desk hours (i.e., 24 x 7) – these services can be provided as an integral feature of the maintenance contract and will be documented in the cost proposal. When STC moves into 2nd-tier support, the State must choose no more than two full-time employees as focal points that are authorized to initiate technical problems, questions, or inquiries regarding the licensed products to STC. Focal point personnel must be employed by the State. STC requests knowledge if a subcontractor vendor is used as the focal point.
<b>1.3.11</b>	<b>Compatibility</b> Ensure compatibility of the proposed system with the existing electronic disease surveillance system information technology environment:		
1.3.11.1	Provide a system that uses a three-tier design that separates the web-based user interface, application logic, and database components.	P	The Sentinel solution is a web-based product that follows industry standard 3-tier architecture with separate user interface, application logic, and database tiers. The system features standard-based integration and communication solutions.
1.3.11.1	Utilize Hewlett Packard 64-bit Itanium-based system hardware running 64-bit Microsoft Windows Server and/or HP-UX.	P	Sentinel is compatible with a 64-bit Microsoft Windows Server and/or HP-UX and can be deployed on Hewlett Packard 64-bit Itanium-based system hardware.
1.3.11.1	Utilize Oracle database software in a real-time clustered environment.	P	The Sentinel solution supports Oracle 9i and Oracle 10g database systems deployed in a real-time clustered environment.
1.3.11.1	Utilize Apache Tomcat or Oracle Application Server software.	P	Sentinel products support Apache Tomcat 5.5 and 6.0 and Oracle Application Server 10.

**WVEDSS**



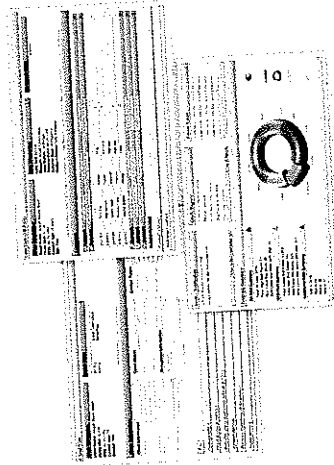
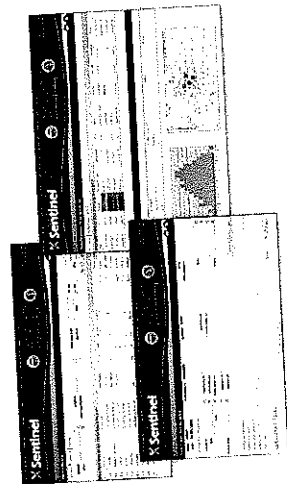
RFQ Reference	Requirement	Compliance P/C/E D/A/N	Explanation
1.3.11.1	Utilize Microsoft IIS or Apache Webserver.	P	Sentinel is compatible with Microsoft IIS or Apache Webserver.

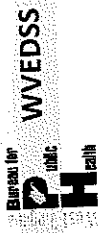
**Summary**

STC's proposed Sentinel solution is the next generation product of the current WVEDSS application. This solution fixes the previous system issues and adds significant new features and functionality. It is the system in use by our clients and has a demonstrated track record for a COTS product.

STC's new EDSS products that are available to our clients include:

- **XSentinel** – An inter-jurisdictional notification and case management system to support communications and information sharing between partners across state borders, etc. (Reference Mid-America Regional Council / Kansas and Missouri.)
- **OMS release 1** – A CDC NORS replacement integrated with Sentinel. (Reference Kansas.)
- **TB-PAM** – An integrated Sentinel case management system for TB. (Reference Alaska and Kansas.)
- **4Sight** – An early warning system that captures hospital Emergency Department, school absenteeism and over-the-counter sales of pharmaceuticals to estimate the likelihood of a disease. (Reference New Hampshire.)
- **Sentinel Health Care Facility Module** – A tool that facilitates reporting and managing of the reportable public health events by health care facilities such as hospitals, ICP, and public and private providers. The module is seamlessly integrated with Sentinel. It enables secure reporting of the event information, including patient demographics, condition, event dates, and related information. Additional features include the ability to enter condition-specific laboratory reports, search, print, and export case information. (Reference Louisiana.)





For the specific West Virginia requirements as identified in the RFQ, the following table summarizes the proposed Sentinel solution and how well it matches the stated requirements:

Evaluation	Total Number *	Approx % of Total
P = Part of current product	94	60.3%
P+ = Exceeds WV requirement	24	15.4%
<b>Subtotal</b>	<b>118</b>	<b>75.7%</b>
C = Custom	7	4.5%
E = Enhancement through 3 <sup>rd</sup> party	13	8.3%
D = Currently in development	2	1.3%
A = Alternative solution	14	9.0%
N = Not supported	2	1.3%
<b>Total</b>	<b>156</b>	<b>100%</b>

\* Evaluation code total includes those for which a requirement rates more than one code.

## 1.4 OTHER VENDOR REQUIREMENTS

### 1.4.1 Related experience with PHIN-compliant electronic disease surveillance/ELR systems and additional capabilities in providing the required services. Company background, size, location. Company experience, capabilities, and resources.

#### *STC experience with PHIN-compliant electronic disease surveillance/ELR systems*

STC has seven years of PHIN experience and over 25,000 PHIN-based software development hours.

STC engineers built the PHIN vocabulary services for CDC and participated in the CDC PHIN NOW weekly meetings as a technical advisor during the John Loonsk era in which all national PHIN standards were first established.

STC developed the first U.S. PHIN-based Logical Data Model EDSS and implemented it in twelve U.S. locations.

Currently, the STC PHIN experience team consists of ten key professionals with an average of over four years of PHIN-based experience.

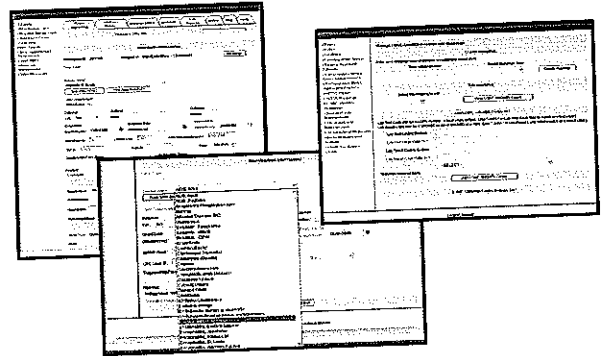
Current STC PHIN-based EDSS/ELR public health clients include:

#### STC clients with Sentinel (the system that is proposed for the WVEDSS)

- State of New Hampshire
- State of Kansas
- State of Alaska
- State of Mississippi – new as of July 09.

#### STC clients with DSMS (pre-Sentinel release)

- State of Michigan – the application is supported in-house.
- State of West Virginia – release is not current.
- State of Louisiana – receives new version updates through annual support agreements and expected to evolve to Sentinel.
- New York City – unique version, STC is withdrawing support.
- Washington DC – receives new version updates through annual support agreements and expected to evolve to Sentinel.



#### *STC background and capabilities*

STC is a Tucson-based public health solution provider specializing in disease reporting and surveillance, early warning, outbreak management, program area case management, and immunization registries. STC has offices in Tucson and Phoenix, Arizona, with additional resources based in Canada and at a variety of U.S. locations. The company employs fifty staff, including professionals with backgrounds and expertise in software and systems engineering, epidemiology, and public health.

STC was founded twenty-one years ago by current CEO Michael L. Popovich, who graduated from the University of Arizona in 1973 with an M.S. in Systems Engineering. STC is the leading U.S. professional services company supporting the public health professional epidemiologists, disease case workers,



public health program specialists, school nurses, physicians, and first responders, all of whom benefit from STC products and solutions — solutions that are designed to capture immunization records, provide early warning for natural and bio-terrorism outbreaks, and support disease case management.

In the U.S., STC's clients include major metropolitan cities such as Washington D.C. and New York City where STC provides surveillance systems to monitor and track reportable diseases, ranging from chickenpox to smallpox, from anthrax to yellow fever. STC has worked with over 50% of the U.S. state departments of health providing disease surveillance and reporting systems as well as systems to capture and manage immunization histories. STC's immunization registry system, STC's first public health solution created for the Arizona Department of Health, focused on creating a "trusted" resource for the provider community to determine the up-to-date immunization status for patients, if they are due for any particular immunization, and the eligibility status for school-age patients.

STC has expanded its outreach into the global health community. In today's global economy with international travel for trade, education, and tourism, the need for timely and accurate public health information is critical, particularly for communicable disease. STC's early warning and disease reporting systems support this global health initiative.

With presentations at the World Health Organization, the European Centers of Disease Control, and the China Ministry of Health, STC is providing expert services to epidemiologists and public health decision makers at all levels. From supporting the implementation of a new Canadian health immunization system to designing disease management systems for the Hong Kong Centers of Disease Prevention, STC continues to be a leader in the use of information technology to impact individual and family health and community economics.

STC's areas of expertise include:

- Immunization Registries – work with thirteen local, state, and national jurisdictions.
- Disease Surveillance – work with nine state and national jurisdictions.
- Early Warning initiatives – outbreak management, syndromic surveillance, Electronic Laboratory Reporting, alerting information from hospitals, and over-the-counter pharmaceutical sales information.
- Health Information Exchange – initiatives with RHIOs on grant development and HIE implementation.
- Public Health Assessments – over 250 provided to public health clients.
- Public Health products and services – over 80 products including Master Patient Index and Vocabulary.
- Custom project initiatives associated with project planning, development, documentation, education, and deployment.

STC is the foremost public health solution provider in the market today. STC is committed to the continuous improvement of our products and services through client feedback and on-going implementation/augmentation of emerging national standards and advancements in technology.

1.4.2 Organizational chart, resumes for project staff, and process if any key project staff is replaced.

STC has a technical staff of full-time employees who are dedicated to the ongoing development and sustainment of the Sentinel product. The STC team includes a multi-disciplined and multi-national work force supporting our public health clients at all levels of their organization. STC prides itself on providing domain expertise for each technology application. It is this domain knowledge that allows our project team to implement successful systems. These domain experts, combined with engineers and software personnel working solely for health and human services organizations, ensure qualified and accountable resources are committed to any new project.

STC will use its best efforts to ensure that the key personnel assigned to this project will remain a part of the project through the completion of system integration testing, as long as the key personnel remain in the employment of STC. STC will also work to ensure that the assigned key personnel will function in the capacity for which their services were acquired through the completion of system integration testing.

STC prides itself on staff retention — STC's compensation and benefits programs and personnel practices are designed to satisfy employees' needs, motivate high performance, and create an environment that fosters long-term retention.

In the event that a key project staff member needs to be replaced, STC will notify the State and submit the resume of the proposed replacement staff. In all cases, the replacement will have the experience, knowledge, qualifications, and skills equal to or greater than the person they are replacing. STC also recommends that the State interview the replacement.

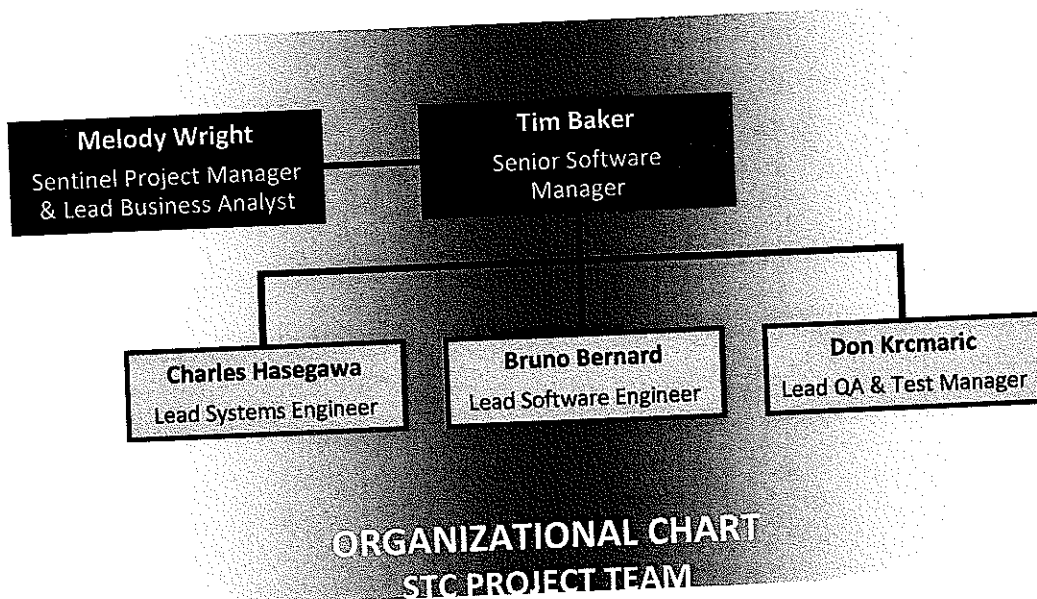
Our proposed STC project team for the WVEDSS is detailed below. We have also included below an organizational chart outlining the proposed project structure. The following pages include a resume for each proposed team staff member detailing education, experience, and training.

Tim Baker	Senior Software Manager
Charles Hasegawa	Lead Systems Engineer
Bruno Bernard	Lead Software Engineer
Don Krcmaric	Lead QA and Test Engineer
Melody Wright	Lead Business Analyst and Sentinel Project Manager

“

.... We finished training our OPH Employees on IDRIS' Health Care Facility Module and DSMS, and it went really well! They loved the look of the interface, had no trouble navigating around, loved the search and report capabilities, and overall thought it was a welcome improvement ... (We heard a lot of 'Oh, this is really good!') And there were no glitches! Thanks so much for all of your help.”

*Christine Romalewski, MPH  
Infectious Disease Epidemiology Program  
Louisiana Office of Public Health  
6.25.09*



**Resumes of Key Project Staff**

**TIM BAKER Senior Software Manager**

**Key Qualifications**

**SKILLS/EXPERTISE**

- Director of Product Development for the Sentinel Disease Surveillance Management System, all supported Immunization Management Systems and related modules and applications.
- Responsible for all aspects of the software development lifecycle.
- Over seven years of software development/information technology management experience.
- STC Technical Lead for State of Arizona projects for four years.
- Assisted in developing one of the first cable modem networks in the U.S.

Skill Set	Years Experience	Time Frame
Software Development Management	3 years	2006 – present
Java Web Technologies	7 years	2002 – present
Oracle SQL	7 years	2002 – present
Unix	13 years	1996 – present
HTML/XHTML, CSS	13 years	1996 – present
JavaScript	8 years	1999 – 2007
IT Management	4 years	1999 – 2003
Perl	3 years	1999 – 2002
Apache XSSI, Mod_Perl	3 years	1999 – 2002
Informix SQL	3 years	1999 – 2002
C/C++	5 years	1996 – 2001
TCP/IP Troubleshooting	2 years	1996 – 1998

**EDUCATION**

- 1998: B S , Computer Science, Arizona State University, Tempe, Arizona.

## Professional Experience

**Scientific Technologies Corporation** February 2003 – present  
*Director of Product Development*

Tim is the Director of Product Development, overseeing the development, quality assurance, and ongoing support for each of the Immunization Management Systems that STC supports and the Sentinel Disease Surveillance Management System, as well as all related modules and applications including HL7 and Enterprise Interface products, the Stand-Alone Forecaster, Stand-Alone Mass Immunizations, X-Sentinel regional case notification and event tracking system, and the Hepatitis B, Tuberculosis, and STD PAMs. He is responsible for the complete development lifecycle, from ensuring that requirements are accurately gathered to quality assurance. He directly oversees over 30 software engineers, contractors, installation and support engineers, and quality assurance engineers. Tim worked as the Technical Lead for the Arizona State Immunization Information System project for four years, with a primary focus on the IWeb interface for the product.

**Cox Enterprises, Inc.** 1996 – 2003  
*Technical Manager, 1999 – 2003*

As Technical Manager for Cox Interactive Media (CIM), Cox Enterprises' Web Technologies Division, Tim performed Perl programming and maintenance on Solaris production servers for large-scale Web applications, data acquisition and transformation, and other Web-site development issues. CIM applications routinely utilized Informix and Oracle databases, Apache XSSI, JavaScript, HTML/XHTML, CSS, and XML. His duties included due-diligence reports of vendor services, integration of third-party utilities, and support of third-party production interfaces. He was also responsible for the system administration of the Phoenix, Arizona, and Las Vegas, Nevada internal PC networks: Windows NT Domain with Windows NT/2000 workstations, Windows 98, Windows 95, Linux Workstations, and Sun (Solaris) content staging server.

*Technical Support/Web Developer, 1996 – 1999*

Tim served as Technical Support/Web Developer of Broadband Services for Cox Communications. He was selected from a competitive group of candidates to participate in the research and development of the Cox High-Speed Internet Service trial. He was responsible for troubleshooting incidents of network outage and coordinated with field technicians to ensure problem resolution. Tim also performed Web development duties for the Cox Communications Phoenix Web site, including C programming for CGI applications, graphic design, and HTML content design. He helped develop one of the first cable modem networks in the U.S. and brought the Cox Broadband product to the point where the @Home network could pick it up for commercial disbursement.

## Supporting Qualifications

### AWARDS AND HONORS

- 2005, Code Review Award, Scientific Technologies Corporation
- 2000, Going the Extra Mile Award, Cox Enterprises, Inc.
- 2001, ICON Award for Productivity, Cox Enterprises, Inc.
- 2000, ICON Award for Best Technical Achievement, Cox Enterprises, Inc.
- 1999, ICON Award for Best Interactive Package, Cox Enterprises, Inc.

**CHARLES HASEGAWA** Lead Systems Engineer

## Key Qualifications

### SKILLS/EXPERTISE

- Strong Object Oriented Design and programming skills.

- Highly experienced with unit testing technologies, including JUnit, FIT, DbUnit, XMLUnit, Easy Mock, and Spring.
- Expertise in web application development using J2EE technologies (JDBC, JMS, JSPs, Servlets, Struts)
- Superb qualitative analysis skills and the ability to quickly assimilate and use new tools.
- Outgoing, with excellent interpersonal skills
- Experienced team lead working with local and offshore teams of developers
- Comfortable translating real world problems into effective software solutions.
- Veteran practitioner of Agile programming methodologies and planning.

<b>Technologies</b>	Java 5, Spring 2.0, JMS, JDBC, SOA, SQL, XML, JSP, Struts, JSTL, XSL, HTML, Ant, J2EE, JUnit, DbUnit, XMLUnit, Hibernate, AOP, shell scripting, Swing, JavaScript, CSS, Kod
<b>Operating Systems</b>	Windows 95/98/NT/2000/XP, RH Linux
<b>Software</b>	Eclipse, MyEclipse, Tomcat 5 and 6, Oracle 8,9,10 databases, Tibco EMS, SQLPlus, Oracle 10gAS, MS SQL Server 2005, CVS, SVN, MS Office Suite, JProfiler, ArcIMS, Paint Shop Pro, Hudson

**EDUCATION**

- 2001: B.S., Computer Science, Colorado State University, Fort Collins, Colorado.

**Professional Experience**

**Scientific Technologies Corporation** 2003 – 2007; 2008 – present  
Senior Project Engineer, April 2008 – present

- Technical lead for the Sentinel disease surveillance and management system product line.
- Works with clients to translate business needs into functional designs for product enhancements.
- Troubleshoots and coordinates with clients, developers, and support staff to determine and resolve client issues
- Clarifies, analyzes, and prioritizes customer support items
- Full spectrum development of new features and bug fixes: developing requirements, designing business rules and user interfaces, and full implementation

*Systems Analyst, May 2003 – January 2007*

- Technical lead and contact to Maryland Department of Health and Mental Hygiene client for their statewide immunization registry. Duties included deployment/installation of applications, trainings and technical assessments, and working with end users to understand evolving user needs to create enhancements to existing products
- Developer on 15+-person team for enterprise level statewide health solution systems: Immunization Registries, Master Patient Index, Perinatal Hepatitis B case management tools.
- Responsible for design and implementation of numerous add-on modules for enterprise level immunization registry, including reporting, GIS tools, user interfaces, and backend implementations and new functionality to leverage the data stores.
- Developed unit testing systems, procedures, and test cases with JUnit and DbUnit.
- Developed and enhanced project builds using Jakarta Ant.
- Generated technical documents pertaining to development including requirement, procedural, specification, and design documents.
- Generated documentation for end users including training materials, patch notes, user guides, and non-technical reference material.
- For the State of Louisiana LINKS immunization registry, worked on the development of a new School Nurse Module.



**Union Pacific Railroad January 2007 – March 2008**  
*Senior Project Engineer*

- Technical team lead for Train Control Systems replacement project.
- Worked with BAs to translate business needs into functional, scalable, back-end design.
- Design, developed, and integrated backend technology solutions to provide high-volume enterprise services in Java SOA environment.
- Design, developed, and produced enterprise event notifications using JMS technologies for operations of multi-billion dollar train network system
- Managed offshore-Indian development team's tasks and workload, communicating design details and business requirements.
- Created and executed enterprise training materials for new hire technical training program.
- Member of the enterprise Testing Steering committee, tasked with architecting the testing environment for the Train Control Systems integration.

**Cottonwood Technology Group 2001 – 2003**  
*Software Engineer*

- Lead designer and developer for the client side of an enterprise level test data management software solution
- Co-architect / build coordinator using Jakarta Ant to build and deploy multiple versions of an enterprise level test data management project.
- Generated technical documents pertaining to development including requirement, procedural, and design documents.

**Woodward 2000 – 2001**  
*Software Engineer Intern*

- Developed GUI applications using Swing and Object Orient Design principles
- Validated GUI software by writing automated test scripts using the WinRunner testing tool for Delphi and Java environments.
- Generated technical documents pertaining to testing; including scope documents, functional requirements, and test plans

**Colorado State University 1999 – 2000**  
*Lab Supervisor*

Charles worked as a Lab Supervisor where he supervised and monitored the usage of student Unix and Linux workstations, as well as other various resources of the Computer Science Technology Lab. He provided an interface between lab students and system administrators in diagnosing system problems and communicating user requests.

**BRUNO BERNARD Lead Software Developer**

**Key Qualifications**

**SKILLS/EXPERTISE**

Skill Set	Years	Time Frame
C/C++	9 years	1997 – 2006
HTML	12 years	1997 – present
Linux	8 years	2001 – present
Lisp	6 months	1997

Skill Set	Years	Time Frame
Oracle 9	6 years	2003 – present
Oracle Pro C	6 months	1997
Prolog	6 months	1997
SQL	12 years	1997 – present
UNIX	8 years	2001 – present
Java	8 years	2001 – present
XSLT	3 months	2006
JSF	3 years	2006 – present
Portal	8 months	2006 – 2007
JSP	18 months	2008 – present

**EDUCATION**

- 1998: M S, Computer Science, Ecole Française d’Electronique et d’Informatique, Paris, France.

**Professional Experience**

*Scientific Technologies Corporation May 2006 – present  
Senior Software Engineer and Technical Lead*

Bruno has played a major role in the development of STC’s Sentinel, a disease surveillance and management system, a comprehensive case management tool that provides extended disease reporting capabilities to allow National Electronic Telecommunications System for Surveillance (NETSS) export files to be generated for CDC reporting. Sentinel also provides electronic laboratory reporting. Sentinel supports public health workers in state and local health departments, health care users in hospitals, clinics, and labs, and school nurses.

Bruno brings his technical expertise to the development of the Data Exporter, which is a component of Sentinel. As detailed below, he was involved in evaluating the project needs for STC’s new Early Periodic Screening Diagnosis and Treatment product and he has worked as technical lead for a large nationwide project for Canada, where he was responsible for the portlets integration for case management.

Bruno’s experience includes:

- Sentinel – Bruno has served as Technical Lead in the development of this new disease surveillance solution. He worked closely on a unified version of Sentinel with the State of New Hampshire, the first state to acquire it. Bruno is currently working extensively with the State of Alaska, which is also getting this version of Sentinel. As Technical Lead, he and his STC team worked successfully to stabilize the system, increase performance, and improve the ELR and patient and case de-duplication components.
- Canada Health Infoway Panorama – Bruno worked as the Portal Development Lead and Technical Lead for this national surveillance system with modules for disease surveillance and case management; immunization and vaccine management; outbreak management; and work management and alerting.
- Washington DC Early and Periodic Screening, Diagnostic, and Treatment System (EPSDT) – Bruno served as Technical Lead for this web-based system created to support well child checkups and to identify health care gaps of children on Medicaid through data assessment and analysis. As Technical lead, Bruno’s responsibilities ranged from communicating and coordinating with the client to managing the development of the system.
- Kansas Electronic Disease Surveillance System (KS-EDSS) – Bruno provided bug fixes on this disease surveillance project.

**Excel Switching/Lucent Technologies 1999 – 2006**  
Senior Software Engineer

- Operations, Administration, Maintenance and Provisioning (OAM&P) subsystem technical lead for the next generation switching solution for 3G (UMTS), IMS, VoIP and legacy (SS7/ISDN) telephony network integration
- Designed and developed the OAM&P application using Visual C++ (Windows PC client) and C++ (Linux server)
- Team leader of a development, build and system integration group. Responsible for user interface design, code review, design review and new development processes
- Analyzed software requirements and determined design and architecture that meet time and cost constraints
- Supported customers by resolving critical field problems
- Assisted with support tools and maintained lab environment resources
- Trained and mentored peers on architecture, design, coding and bug resolution.
- Developed a graphical user interface for Lucent ECMS source control system.

**Liticorp Ltd. 2005 – 2006**  
IT Consultant

- Setup and maintained a company web server, mail server, file server and VPN on Linux
- Trained the local support person on Linux server backup and maintenance

**XNT Systems/Excel Switching 1998 – 1999**  
Software Engineer

- Designed, programmed, debugged and tested software systems to control Telephony Switches Projects were developed using Visual C++ 6.0
- Refactored the company's main application user interface from curses to windows. This project eventually became the OAM&P for Excel Switching then Lucent next generation switching solution.

**Supporting Qualifications**

**LANGUAGES**

- Fluent in French.

**DON KRCMARIC Lead QA and Test Engineer**

**Key Qualifications**

**SKILLS/EXPERTISE**

- Over eighteen years experience in software development and testing in DOS, OS/2, UNIX, AIX, and Windows environments as well as embedded environments
- Well-organized team player with strong communication skills

Skill Set	Years	Time Frame
CSS	5 years	2004 – present
HTML	5 years	2004 – present
Java	3 years	2006 – present
JavaScript	5 years	2004 – present
Java Servlets	3 years	2006 – present



Skill Set	Years	Time Frame
MS Access	10 years	1999 – present
MS SQL Server	3 years	2006 – present
Oracle	3 years	2006 – present
SQL	5 years	2004 – present
Tomcat	3 years	2006 – present
Visual Basic	5 years	2000 – 2004

**EDUCATION**

- 1999: B.S., Business/Information Systems, University of Phoenix, Tucson, Arizona
- 1975 – 1977: Coursework in Marketing, Indiana University, Bloomington, Indiana

**Professional Experience**

**Scientific Technologies Corporation** January 2006 – present

*Quality Assurance Engineer*

Don provides for and performs testing and quality assurance efforts for STC's software applications, including version releases. He develops and oversees the quality assurance test plan. He ensures testing in customer's test and training environments and provides test scripts for the stages of software quality assurance phases. Don is responsible for developing formal test plans and implementing the required manual and automated test scenarios and creating the resulting test reports. He also can provide user acceptance testing support with the client staff.

Don's responsibilities include:

- Functional, regression and user acceptance testing of different variants of software.
- Creates user acceptance testing scripts according to requirements and use cases.
- Analyzes test results for compliance to specifications and document discrepancies.
- Deployment and configuration of new builds for testing purposes
- Advisory of QA Engineers

Don has worked exclusively on STC's disease surveillance and management system and Sentinel products since joining STC in 2006.

**Securaplane** September 2005 – December 2005

*Contractor*

Don set up test scripts written in Python, that would perform interoperability tests of the AIRBUS A380 Cockpit Display Security System (CDSS) through it's Avionics Full-Duplex Ethernet (AFDX) Test Responder software used in an Avionics Development System (ADS2).

He also wrote scripts for monitoring AFDX's Management Information Base (MIB) and sending AFDX status requests through an SNMP agent.

**Systasis Computer Systems** June 2004 – September 2005

*Consultant*

Don assisted in the development and maintenance of a web site and database on an Apache server using CGI programming written in Perl, JavaScript, SQL, and HTML on a Linux development system. Web pages enabled the client to add other clients, update and maintain client profile data, input report data using database driven selection boxes, perform client/server validation of report data, maintain client report data, and generate menu driven PDF or HTML reports and invoices for automatic e-mailing. His code images for reports, client logos, and signature can be uploaded and maintained on the server.

**Environmental Systems Products, Inc.** November 1994 – April 2004  
*Software Design Engineer*

Don was responsible for the development and testing of software written in C, C++, HTML, or Visual Basic language using Visual Studio to control vehicle emissions testing equipment in a multi-tasking, multi-threaded environment. He maintained and improved programs developed on DOS, OS/2 and Windows platforms including RS232 serial communications between PC and it's peripheral equipment which included gas analyzers, dynamometers, video cameras, barcode readers, and OBD II scan tools. Don also handled troubleshooting problems found in the field and developed solutions to be incorporated into new software releases. He developed OBD II embedded communication software for all vehicle protocols using the Microchip PIC18F452 microprocessor and the MPLAB IDE development tool with the MPLAB C18 compiler. Don was the original designer of the software for a serial gas cap tester that has been used in all emissions analyzers since 1995.

**IBM Corporation** February 1981 – October 1994  
*Programmer, January 1990 – October 1994*

In his programming role, Don led a small team of software testers involved with functional, system, and acceptance test cycles of complex storage management software products and developed plans for test coverage and debugging. He configured systems in ADSM client/server environment including AS/400, RISC/6000, OS/2, VM, and MVS servers and Hewlett Packard, sun, Macintosh, Novell, Windows, and DOS clients using tape libraries for software testing on VM, MVS, OS/2, Unix, Aix, Windows, and DOS platforms. Don created portable test cases exposing various storage scenarios to be used for present and future product releases. He also analyzed problems from clients and provided developers with possible solutions. Don ensured code compatibility with other hardware devices and software.

*Procedures Analyst, February 1985 – December 1988*

Don developed and maintained the first site-wide database to track the use and disposal of hazardous chemicals used on IBM's site for compliance with state and federal regulations. He also was responsible for overseeing hazardous chemical waster disposal operations for the entire site.

**Supporting Qualifications**

**CONTINUING EDUCATION/TRAINING**

- 1989: IBM Computer Science Training. On-site program through Northern Arizona University and Pima Community College, Tucson, Arizona

**MELODY WRIGHT** Lead Business Analyst & Sentinel Project Manager

**Key Qualifications**

**SKILLS/EXPERTISE**

- Excellent project and requirements management skills, with a focus on process improvement and optimization of data quality, accessibility, and usability
- Teaming, problem-solving, analytical, organizational, and documentation skills
- Extraordinary liaison between the user community and the development team, comfortably interfacing with all levels from executive management through support staff
- Focus on requirements gathering, change management, analysis, and thorough documentation.
- Experience with enterprise and global projects using SDLC, SEI/CMM, PMI includes:
  - Project management of multi-state, cross-business projects.
  - Initializing and streamlining enterprise and worldwide business processes and systems.
  - Oracle and SQL Server database and data warehouse design, including extract/transfer/load
  - Creation of training materials and delivery to internal customers at all corporate levels

- Application systems integration, conversion, and worldwide application deployment.

**TECHNICAL SUMMARY**

Microsoft Applications	Project, Excel, Word, Access, PowerPoint, Visio, Product Studio, SQL Server, Share Point, Visual SourceSafe
IBM Applications	Rational ClearQuest, Requisite Pro
Project Management	PMI, Microsoft Project, Primavera, ChangePoint
Presentation, Web Development	IN Focus, Netscape Communicator, Photoshop
Collaboration	NetMeeting, Sametime, Lotus Notes, Outlook, E-Room, iLinc, GoToMeeting
Software Engineering	SEI/CMM ; CMMI ; Productivity Plus (P+); (Boeing) ; GIS Process (DHL) Integrated Process Development System in IT (Raytheon)

**EDUCATION**

- 1975 B.S. Mathematics, Central Connecticut State College, New Britain, Connecticut.

**Professional Experience**

**Scientific Technologies Corporation** November 2005 – present  
Senior Business Analyst

As a Business Analyst, Melody works with the clients to elicit detailed requirements from the high level features requested for enhancements to their system. It is important that a Business Analyst gain an understanding of the client's current business process. It is equally important that she work closely with both the client and the project architect to focus the detailed enhancements requirements to meet the client's business need in a technically achievable manner. Melody also often acts as a liaison between the clients and the development staff, validating that the requirements are implemented correctly and clarifying questions that may arise from the development staff. Her recent projects include:

- Kansas Electronic Disease Surveillance System (KS-EDSS) : Project Manager, Senior Business Analyst; and Trainer for the delivery of STC Sentinel with IMS Integration and ELR processing; Integration with new product, Outbreak Management System (OMS) and integration with new product, Tuberculosis Program Area Module (TB PAM).
- New Hampshire Electronic Disease Surveillance System (NH-EDSS) Project Manager, Senior Business Analyst and Trainer for the delivery of STC Sentinel with migration from STC Disease Surveillance and Management System.
- TB PAM – Business Analyst to define and document requirements to comply with RVCT 2009
- Mid-America Regional Council (MARC) X-Sentinel. Project Manager, Senior Business Analyst, and Trainer for new product to capture individual disease notifications and event notifications; create multi-state, regional notification alerts; create cases in the respective disease surveillance systems of the States of Kansas and Missouri from individual notifications; create multi-state regional alerts and reporting capabilities from selected data extracted from the disease surveillance systems of both states
- Louisiana Infectious Disease Reporting Information System (IDRIS). As primary business analyst, responsible for documenting requirements for initial delivery of Disease Surveillance System with Hospital Data Entry module
- Connecticut Environmental Public Health Tracking Network (EPHTN). Project Manager and Primary Business Analyst for the Asthma, Child Health Profile (CHP), and Hospital Discharge Data, tasked with making the data accessible as modules to the CT-EDSS, in preparation for future extraction to the EPHT Data Warehouse.
- Hong Kong Communicable Disease Reporting Feasibility Study. Assisted in creating and documenting Use Cases and process flow diagrams.

- Missouri Immunization Registry Assessment. Senior Business Analyst for Business and Systems Analysis and Needs Assessment to be used to determine the functional and technical needs associated with implementing the Wisconsin Immunization Registry (WIR).
- Connecticut Electronic Disease Surveillance System (CT-EDSS). Clarification and documentation of new enhancement requests
- West Virginia Electronic Disease Surveillance System (WV-EDSS) Business Analyst responsible for clarification and documentation of new enhancement requests.
- Bermuda Environmental Health Department System (BEHDS). Validation of enhancements and defect correction.

**Raytheon Missile Systems** *May 2004 – November 2005*  
*Production Support Change Control Coordinator and Project Coordinator*

Melody served as project manager of a human resources awards system across three businesses in three states, with responsibilities for: project planning and reporting; requirements gathering and documentation; test plan, test case, and test procedure documentation; test coordination; system testing, coordination and oversight of UAT, and change management. She was responsible for Change Request implementation in support of production applications: gathering requirements, analyzing, determining solutions, coordinating development and implementing with Six Sigma documentation. Melody was a team member of a standardized Test Management Process development and documentation effort. She handled oversight and administration of Change Request Management System (CRMS) and Information Technology Project Tracking System (ITPT) and develop management reports for portfolio management (Rational Clear Quest). Melody defined and refined policies, procedures and workflows for CRMS, ITPT, and the software development methodology *Integrated Product Development System for RMS in IT*.

**DHL** (contracted through Ensynch, Inc ) *March 2004 – May 2004*  
*Integrated Project Scheduler*

Melody developed and maintained integrated project schedule and analysis reports for development of international SAP-based billing system using Project 2002.

**Microsoft** (contracted through Siemens Business Services) *September 2002 – September 2003*  
*Project Scheduler / Business Systems Analyst, Field Services Information Technology*

Melody documented lessons learned at initial release, with recommendations for improvement that led to assignment as Project Manager. She developed and used a complete CRMS (Change Request Management System) and Project Schedule in MS Project to manage all project-related activities and decisions to achieve on schedule, on budget project delivery. She initiated, developed, and maintained a Project Schedule, including Master Plan and Resource Pool, for the rapid development implementation and worldwide deployment of ChangePoint, a Professional Services Application. Melody implemented a formalized CRMS, fully documented with SDLC sequence diagram, responsible for: initial review of the Change Request (CR) for clarity and completeness; assigning and tracking for impact analysis; facilitation of weekly Change Control Board meetings, documenting and posting the results to the team intranet site; negotiating CR trade-offs and recovery plans between the development team and the business owners based on CR priority and time estimates; weekly status communications to the user and development communities; maintenance of the CRMS throughout the SDLC with integration to the project plan. She integrated the CRMS with the Project Plan, tracking and monitoring each scope item and CR for each release throughout the SDLC. Melody achieved standardized, documented SDLC workflow and analysis templates as process improvement lead. She developed an internal website to ensure worldwide communication to all interested users, business owners, technicians, and management. She led teams from requirements gathering through approval and implementation for the CRMS and SDLC documentation projects. Melody also provided Functional Analysis specifications for integration with Siebel and for populating foreign exchange rates for worldwide deployment and documented functional and data specifications. Tools used included MS Project, Project

Server, CRMS, Product Studio, SQL Server, VISIO, Visual SourceSafe, SharePoint, interviews, team meetings, PowerPoint, Visio, Word, and Excel.

**The Boeing Company** (contracted through Comsys Technical Services) 2000 – 2002  
*Functional Analyst / Acting Project Manager, Shared Services Group Information Services*

Melody was responsible for working with the Business and IT Owners to develop a working schedule for a constantly changing team, preparing monthly presentations for delivery to the Steering Committee of Business Owners by IT Manager, and rewriting scope definition based on Steering Committee feedback. She handled business and functional analysis for the Computing Inventory Information Management (CIIM) project. She was a Core Team member for SEI/CMM Level II achievement, creating SEI/CMM Level II Requirements Management Process Guide and creating and delivering training presentations.

**Washington Mutual Bank** 1998 – 2000  
*Senior Systems Analyst, Financial Information Systems*

Melody managed assigned portions of corporate data warehouse to convert mainframe data to an ORACLE database on a HP-UNIX platform data warehouse. Her responsibilities included requirements gathering, coding, test plan development, testing, IT and user approval, IT and user documentation, preparation and delivery of training materials, and data integrity validations. She implemented and maintained use of updated data source file for pipeline mortgage loan data; handled data integration with originated loans database; and accomplished the data conversion for mapping and testing the importation of data from acquired banks.

**Federal Way School District** 1996 – November 1998  
*Internet Curriculum Developer / Mathematics Teacher, Internet Academy*

Melody created and delivered a two-year high school algebra course via internet, personal, and phone instruction.

**First Interstate Bank of Washington, N.A.** 1980 – 1996  
*MIS Support Officer / Product Specialist / Assistant Vice President*

Melody was the Northwest Regional Department Project Lead for mainframe loan accounting software releases, GL interfacing. She handled Northwest Regional Loan System User Support and Departmental Computing Systems Support. Melody was responsible for developing, testing, documenting and implementing data extracts and procedures for corporate, federal, and management reporting for a five state region from mainframe and departmental databases. She identified requirements, designed, documented, implemented, and managed PC Databases for tracking regional Credit Authorizations and Problem Assets. Melody also developed, documented and implemented revised comprehensive portfolio analysis format, adopted by Bancorp as the primary tool for presentation of company statistics to the Board of Directors. She created user documentation and training materials and delivered end-user, support staff, management and executive training for Loan System (AFS)

## Supporting Qualifications

### TRAINING

- Project Management Institute – Project Management.
- Productivity Plus (P+) Methodology – Modeling, System Architecture, Business Requirements, System Management
- Oracle – Introduction to Oracle SQL and SQL Plus and Introduction to Oracle PL/SQL
- Software Engineering Institute / Capability Maturity Model (SEI/CMM) – Key Process Areas: Requirements Management, Software Quality Assurance, Project Planning, Project Tracking and Oversight.
- Omni-Vista, Inc. – Requirements Management for Software Engineering (AI Davis).

1.4.3 Three references from similar projects, with description of work performed.

**New Hampshire Electronic Disease Surveillance System**

• References:

Brook Dupee, Chief  
Bureau of Public Health Informatics  
New Hampshire Department of Health and Human Services  
29 Hazen Drive  
Concord, NH 03301  
603.271.4483 phone  
[BDupee@dhhs.state.nh.us](mailto:BDupee@dhhs.state.nh.us)

Kamakshi Subbakaran, NHEDSS Project Manager  
Division of Public Health Services  
New Hampshire Department of Health and Human Services  
29 Hazen Drive  
Concord, NH 03301  
603.271.3910  
[ksubbakaran@dhhs.state.nh.us](mailto:ksubbakaran@dhhs.state.nh.us)

- Project Dates: September 2006 – present.
- Software Environment: Microsoft SQL Server 2000; OS, Windows 2003 Server; Server, Tomcat 5.0.

• Project Description:

STC contracted with the State of New Hampshire Department of Health and Human Services to provide and deliver a new statewide disease surveillance system. STC had also initially conducted a requirements analysis and developed a strategic plan to construct a roadmap for the implementation of STC's COTS products to support disease surveillance. In addition, components and services to extend the functionality have since been developed to include an ELR Interface, an In-line Geocoder, a Mapping Module, and Alerting and Notification Module, and a Public Health Directory. STC's GSA COTS products were used to meet this request. The most recent release of the application (Sentinel), which went into production in the October 2008, is a three-tiered web-based application environment that adheres to the U.S. CDC PHIN-based standards for disease surveillance and reporting.

The State worked closely with STC to identify and implement significant improvements in the processing of ELR transactions and reporting functionality. In March 2009, the State moved to Sentinel Version 3.2, which includes Facility User Functionality and the ability to track Animal Cases. The State is currently moving to Version 3.3, which will focus on additional improvements to the processing of ELR transactions and maintenance of the LOINC-SNOMED tables and the capture of lab report data entered manually.

New Hampshire has been using the disease surveillance and management system Sentinel application for over two years, entering an average of 350 cases per month.



## Louisiana Infectious Disease Reporting Information System (IDRIS)



- References:

Raoult Ratard  
Louisiana Office of Public Health – MIS  
1450 L & A Road  
Metairie, LA 70001  
504.219.4538 phone  
[rratard@dhh.la.gov](mailto:rratard@dhh.la.gov)

Mike Schmidt, PHIN Project Manager  
Louisiana Office of Public Health – MIS  
1450 L & A Road  
Metairie, LA 70001  
504 219.4459 phone  
[MCSchmidt@dhh.la.gov](mailto:MCSchmidt@dhh.la.gov)

- Project Dates: June 2006 – present
- Software Environment: OS, SuSe Linux; Server, Oracle 10g AS
- Project Description:

This contract entailed the software purchase and integration of an infectious disease reporting system for the State of Louisiana. The products are the core components required to collect, store, and report communicable disease data via a web-based graphical user interface. Included are the modules and components for the electronic receipt of laboratory results and the electronic messaging of the national notifiable diseases to CDC via the NETSS or NEDSS message format.

IDRIS, the new system, replaces the State's outdated surveillance system, the Reportable Disease Database (RDD) while maintaining RDD's main functionalities and builds on RDD concepts for additional functionalities. IDRIS is capable of electronic data entry, data transformation, and statistical reporting and conforms to HIPAA privacy and security guidelines. IDRIS complies with the CDC PHIN data standards and architectures and implements the CDC Logical Data Model.

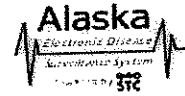
IDRIS integrates with Louisiana Public Health Information Network (LaPHIN) to provide immediate notification of and access to critical disease surveillance information to the Louisiana Office of Public Health communicable disease case managers and the infectious disease support staff of hospitals. The system will utilize public and private sector lab results to initiate disease surveillance activities.

One of the unique features of the IDRIS solution is the Health Care Facility Module. The module is seamlessly integrated with IDRIS system and facilitates reporting and managing of the reportable public health events by health care facilities such as hospitals and public and private providers. It enables secure reporting of the event information, including patient demographics, condition, event dates, and related information. Additional features include the ability to enter condition-specific laboratory reports, search, print, and export case information.

## Alaska Immunization Information System & Disease Surveillance Management System

- Reference:

Sue Anne Jenkerson, RNC, MSN, FNP  
 Section of Epidemiology  
 3601 C Street, Suite 540  
 Anchorage, AK 99508  
 907.269.8000 phone  
[sue.jenkerson@alaska.gov](mailto:sue.jenkerson@alaska.gov)



- Project Dates: July 2007 – present.

- Software Environment: Oracle 10g; OS, SuSe Linux; Server, Tomcat 5.0.

- Project Description:

STC provided planning, design, development, and implementation and is currently providing maintenance and support for an interfaced Immunization Information System & Disease Surveillance Management System (IIS & DSMS) for the State of Alaska, Department of Health and Social Services, Division of Public Health, Section of Epidemiology.

The goals of the Alaska Immunization Program, under the Section of Epidemiology, are focused on the prevention and control of vaccine-preventable diseases through ensuring that at-risk populations are appropriately immunized. In addition, the Alaska Immunization Program actively identifies, investigates, and controls outbreaks of vaccine-preventable diseases.

The implementation of STC's IIS provides the State of Alaska a confidential, population-based and computerized information system to house and maintain immunization records for all persons in Alaska. The implementation of the system helps the State to decrease administration of unnecessary vaccines and reduces the time it takes for providers within the state to obtain historical immunization information of their patients. The system is available to both public and private providers with an end goal of providing parents the ability to use the system to retrieve official immunization records for their children.

Disease surveillance activities under the Section of Epidemiology include surveillance for diseases that are of public health significance and investigation of disease outbreaks to stop the spread of these diseases. Integral to these activities is the collection, retention, analysis, and presentation of data on cases of infectious diseases.

The implementation of STC's Sentinel DSMS provides the State of Alaska a place to house historical and new records of notifiable conditions and other conditions of public health importance in Alaska. The data collected enables the State to record the historical significance of certain diseases.

Current status of project:

The State started entering live data into AKSTARS (Sentinel) at the end of June 2009. Their first NETSS export was in early July 2009. The State has also purchased the TB PAM which is scheduled to go live summer 2009. VACTRAK (the immunization information system) went live in January 2009. The link between AKSTARS and VACTRAK for vaccine preventable disease information went live in July 2009.



#### 1.4.4 Proposed work plan with specific action steps and approach to providing the products and services required.

In seven years of designing and implementing state-based PHIN Electronic Disease Surveillance Systems (EDSS), the STC team has learned many lessons. Often the lessons originated from less than 100% successful efforts. Our team has remained diligent and committed throughout these seven years and the result is a new generation of electronic disease surveillance systems at STC. Some of our original clients chose to move on and to this day remain without a fully PHIN-compliant system. Others of our clients continued to work with STC and evolved their systems to the new Sentinel application that we are proposing for the WVEDSS replacement. Sentinel does not today meet 100% of the WVEDSS requirements. It will likely, through the natural evolution of the project, achieve this 100% level over the course of the next few years if our User Consortium supports and agrees upon the on-going development of the application.

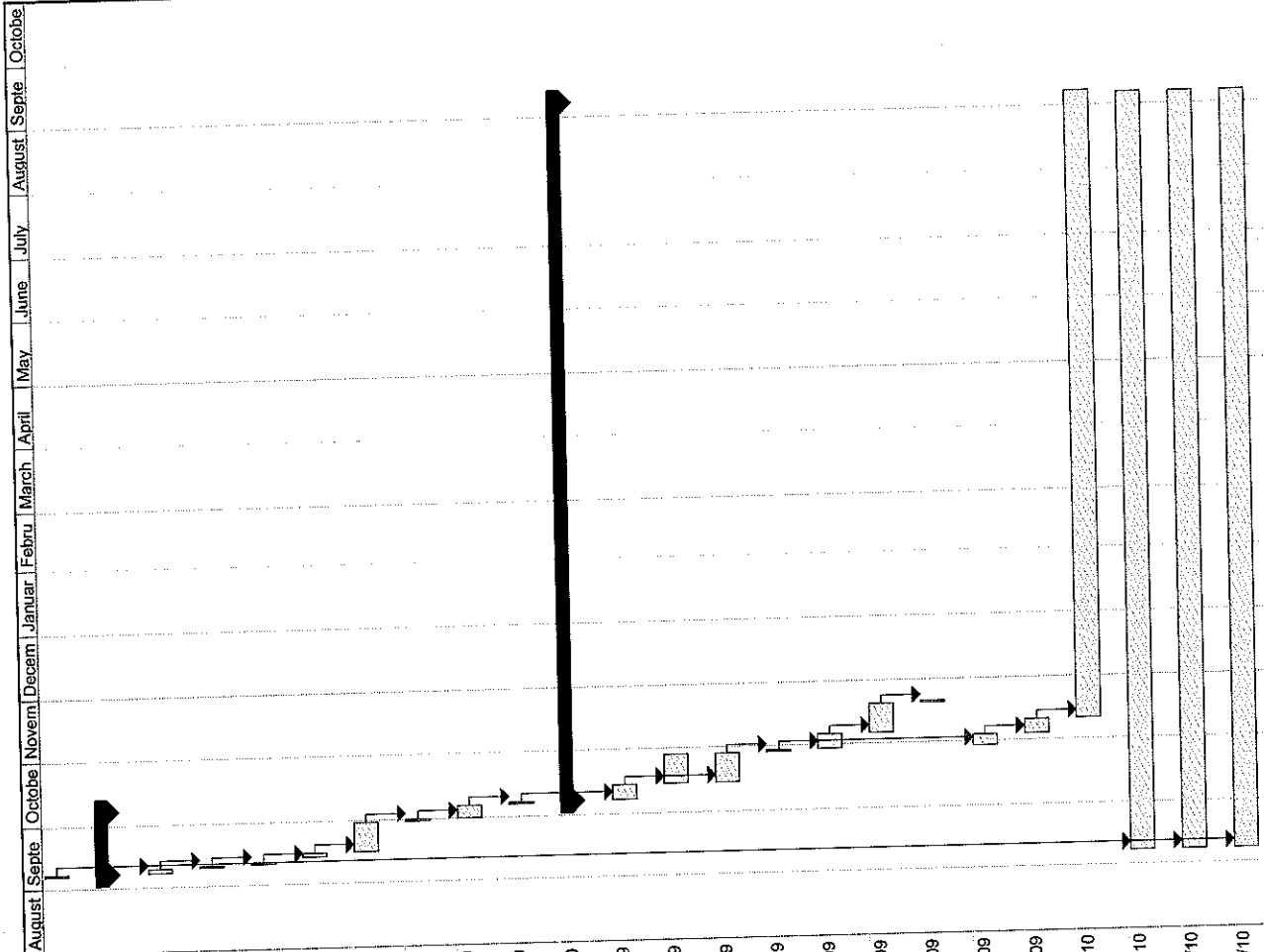
One of our lessons learned is that we will not promise a work plan and approach that satisfies 100% of the requirements if in fact it impacts the primary objective of the project. Our new application and work plan proposed for the Sentinel WVEDSS will minimize the risks of the project and move the system to full usage as quickly as the State can support the process.

**We have included on the following page our proposed comprehensive project plan that outlines each task and the completion criteria for each of the tasks.**

“

... The Wyoming Immunization Registry (WyIR) has so many tools to use, it is really the best solution for immunization data... reporting to WyIR is just the right thing to do. STC provides excellent customer service.”

*Dr. Barry Wohl, MD  
Northeast Wyoming Pediatric Associates, PC  
March 2009*



ID	Task Name	Duration	Start	Finish
1	Task Name Notice to Proceed	1 day	Mon 9/7/09	Mon 9/7/09
2	Implementation Planning	22 days	Tue 9/8/09	Wed 10/7/09
3	On-site visit & review of Sentinel	2 days	Tue 9/8/09	Wed 9/9/09
4	IT Services meeting and Equipment Review	1 day	Thu 9/10/09	Thu 9/10/09
5	3rd Party Product Review	1 day	Fri 9/11/09	Fri 9/11/09
6	WVEDSS Current Status Review Users & Data	2 days	Mon 9/14/09	Tue 9/15/09
7	Development of Sentinel Implementation Plan	10 days	Wed 9/16/09	Tue 9/29/09
8	Presentation and State Approval	1 day	Wed 9/30/09	Wed 9/30/09
9	Update of Project Delivery Schedule	4 days	Thu 10/1/09	Tue 10/6/09
10	WV Acceptance	1 day	Wed 10/7/09	Wed 10/7/09
11	Installation	239 days	Thu 10/8/09	Tue 9/7/10
12	Installation of Sentinel on Test System	5 days	Thu 10/8/09	Wed 10/14/09
13	WV Testing	10 days	Thu 10/15/09	Wed 10/28/09
14	Configuration Updates as Required	10 days	Thu 10/15/09	Wed 10/28/09
15	WV Acceptance on Test System	1 day	Thu 10/29/09	Thu 10/29/09
16	Installation of Sentinel on Production System	5 days	Fri 10/30/09	Thu 11/5/09
17	WV Acceptance Testing	10 days	Fri 11/6/09	Thu 11/19/09
18	Go Live Target	1 day	Fri 11/20/09	Fri 11/20/09
19	On-Site Training	3 days	Fri 10/30/09	Tue 11/3/09
20	Delivery of Documentation	5 days	Wed 11/4/09	Tue 11/10/09
21	On-going software Maintenance Year 1	215 days	Wed 11/11/09	Tue 9/7/10
22	Project Management	260 days	Tue 9/8/09	Mon 9/6/10
23	Monthly Reporting	260 days	Tue 9/8/09	Mon 9/6/10
24	Change Order Control and Request Process	260 days	Tue 9/8/09	Mon 9/6/10

Task  
 Split  
 Progress

Milestone  
 Summary  
 Protect Summary

External Tasks  
 External Milestone  
 Deadline

**Project: WV Project Plan**  
 Date: Thu 7/9/09

#### 1.4.5 Formal and documented project management method to develop the work plan that includes the tasks, completion criteria for the tasks, and a comprehensive project plan.

As requested in the RFQ, we have included in Section 1.4.4 our proposed comprehensive project plan that outlines each task and the completion criteria for each of the tasks.

STC uses established and robust industry standard processes to integrate Program Management and Quality Management. Our team for the WVEDSS project is experienced in these processes, as well as the US CDC Unified Process (CDC UP) and the NCPHI Modified Rational Unified Process (RUP). We have the right people, organization, and processes in place to execute the work, and we will use a comprehensive management approach relying on the CDC UP and the NCPHI Modified RUP to plan and execute the WVEDSS project. Major features of our approach include:

- A highly experienced and fully qualified Program Manager, Melody Wright, to direct project activities and respond to evolving program needs
- An effective program management organization that will regularly interface with the State project staff and with STC corporate management.
- In-place, stable staffing with appropriately qualified personnel dedicated to the public health mission.
- Task-level and program-wide quality assurance to monitor, report on, and help improve the work performed by our team.
- Regular management, communication, and status reporting to the State WVEDSS Team, stakeholders, and STC corporate management.
- STC's Comprehensive Program identified-risks Management Approach.
- Proactive risk management to identify, mitigate, and avoid, whenever possible, any risks to program success.
- Formal problem/change management along with risk planning and management to ensure the stability and control of the software as well as the future releases of supplements and components.

STC's delivery objectives provide the basis for our timeline decisions. Timeline management is based on two key factors:

- 1) STC development resources
- 2) Development requirements associated with each application release.

STC has core staff and the ability to expand using contracted resources. However, the ability to integrate contracted staff in an efficient manner has some impact on the timeline. STC's rationale for timeline management entails the ability to provide a detailed task work order breakdown that contains efforts of no more than forty (40) hours in length. Weekly status calls allow the manager to assess schedule challenges quickly. One individual at STC manages our COTS product timelines and schedules. This same individual has detailed knowledge of the staff resources and skills and monitors the performance of each accordingly. As such, when staff members are assigned to specific forty hour tasks/milestones, the STC manager is able to better control the timeline and resource allocations.

The STC process to managing a similar public health project is summarized below.

#### *Overview of the Specific Management Activities in Support of the COTS Products*

STC has successfully used a number of processes to manage its enterprise solutions, most notably our Immunization Information System (IIS) products in use by ten state public health clients. The same

processes are now being applied to the Sentinel COTS solution and are described specific to IMS in the following paragraphs.

The management framework of the IIS is used to ensure that a single COTS product — IWeb — is effectively used by ten different states, each with their own needs, processes, and legislation.

Management of the IIS consists of the following areas, with each area dependent on the others and, taken as a whole, affect the timeline:

- Change Request (enhancement) management.
- Development task management.
- Defects management.
- Quality assurance management.
- Release management.

*Change Request Management*

Enhancements for a product are requested via the standardized STC Change Request (CR) document. When a client requests a CR, the Project Manager works with the Product Lead to create a detailed description of the desired change. The Product Lead then provides an estimate for the work. In addition, each CR has a “sign-by” date, lists the release that the change will be targeted for, and provides spaces for both a client and STC signature.

*Development Task Management*

Management of development tasks begins with a Microsoft Project plan which contains the tasks and resources needed for future releases of a product as illustrated in the graphic below.

Each week, one or more status calls are held for each product to allow for a status check on each task currently in development or scheduled to be worked on in the near future. They also assure clarity, priorities, and quality. The call serves as an opportunity for questions to be asked and consensus to be reached. It also allows for the rapid identification of problems in the schedule.

*Defects Management*

All defects found by clients are logged into STC’s ticketing system, JIRA. The JIRA tickets can originate from phone calls with an STC Installation and Support Engineer (ISE), e-mails from the client, or the client may direct entry into JIRA. Each ticket is assigned to an ISE who begins investigation. The ISE provides support on appropriate tickets (e.g., configuration issues) or creates a development ticket when necessary.

Tickets originating from a defect are targeted for a patch or a release, depending on the severity of the issue. While a regular patch schedule is desired, critical issues warrant patches that fall outside of the schedule.

*Quality Assurance Management*

During the development cycle, the Quality Assurance (QA) team tests new tickets as they’re resolved by the development team. At the end of the development cycle the code is frozen, and QA begins regression testing, which not only tests new features, but also ensures that regressions haven’t been introduced in the code. Upon completion of the initial regression test, decisions are made by product and project management to determine which defects are low risk and important to an upcoming release, and which can be scheduled for a subsequent patch. Development begins on those tickets deemed necessary for the release, and it continues for approximately two weeks. Next, the code is again frozen, and the QA team performs regression tests once more.

At the end of the second iteration of regression testing, a decision must be made to determine if the current build is stable and can be released, or if another iteration of development and regression testing must occur. This decision is communicated to each client of the product if a delay is needed.

*Release Management*

A critical component of managing any COTS product is the implementation of a Release/Patch schedule. The Release/Patch schedule is defined as the periodicity of when new functionality and defect resolutions will be delivered. It allows for the client to schedule staff (both IT and program) as well as for STC to appropriately and efficiently schedule development and support resources. STC operates off a yearly release cycle with between two and three releases provided during the year. Patches are provided generally on a monthly basis, however it is not uncommon to accelerate or delay certain patches due to client needs

Certain milestone dates related to each release are crucial to managing the release cycle effectively:

- Requirements Freeze date – the date which all requirements must have client sign off to ensure adequate development/testing time.
- Code Freeze date – the date which all software must be completed and builds have been created for QA to start the testing cycle; there are actually two Code Freeze dates due to the regressive nature of our testing.

STC will work with the Sentinel consortium members to create an agreed upon release schedule. STC will then operate as a facilitator of this release schedule.

“

... I wanted to personally thank ... Scientific Technologies Corporation for their extraordinary efforts to support and maintain the Louisiana Immunization Network for Kids Statewide (LINKS) during the aftermath of Hurricane Katrina. The collaborative efforts of the Louisiana Immunization program and the technical expertise provided by STC have enabled thousands of immunization records to be accessed by health professionals in many places throughout the country. The efforts of your team ... have enabled access to children's immunization records so they could return to school with proof of vaccination. STC's efforts have also helped CDC to illustrate the significant value of these Immunization Information Systems. Thanks again ... for your recent activities to support the Hurricane Katrina relief efforts and for your support of Immunization Information Systems.”

*Stephen L. Cochi, MD, MPH  
Captain, US Public Health Services  
Acting Director, CDC PHS, National Immunization Program  
9.16.05*

**1.4.6 The project management method must provide the State with a means of determining if the statement of work is being accomplished as scheduled with acceptable deliverables.**

In Section 1.3 of this submittal, STC has included the complete list of the State requirements for the WVEDSS and provided specific information, notes, and comments to identify the deliverables of the Sentinel system.

“

..... In comparing the manual system to the automated one, what once took hours for state surveillance staff to investigate and follow up with hospitals, now takes minutes.”

*Client Management Staff on STC Automated Hospital  
Emergency Department Data System (AHEDD)  
New Hampshire Dept. of Health & Human Services  
August 2006*

**1.4.7 Provide a schedule of proposed project milestones, tasks, and deliverables to support each project phase.**

We have included in Section 1.4.4 our proposed comprehensive project plan that outlines project milestones, tasks, and deliverables to support each project phase.

**1.4.8 The work plan must list all tasks needed to accomplish the statement of work.**

We have included in Section 1.4.4 our proposed comprehensive project plan that outlines all project tasks needed to accomplish the statement of work.

“

... UAT has been fun! I am pleased to have been able to sit down with a set of instructions, follow them, and have things happen the way they should!”

*Mid-America Regional Council (MARC) user, on  
STC regional disease surveillance system  
4.17.09*



**1.4.9 The vendor must provide an unlimited user license to the State of West Virginia for the use of the EDSS. This license will allow unlimited use of the system by all system users at no charge.**

STC will comply with this requirement as an unlimited State user license will be provided.

**1.4.10 The vendor must provide a mechanism whereby all system source code is the property of or can be accessed by the State of West Virginia.**

STC owns the Sentinel source code. STC will provide a copy of the source code to the State of West Virginia upon contract award to support the license agreement.

## 2.0 GENERAL TERMS AND CONDITIONS

STC has reviewed the general terms and conditions contained in the RFQ Number EHP90097. By signing and submitting this bid proposal, STC agrees to be bound by all the terms and conditions contained in RFQ Number EHP90097.

“

The presentation went great without any problems. Thank you so much for the back-up support during the presentation time. At the risk of repeating myself, I again want to shout my mantra that working with STC is such a pleasure!”

*Gerri Yett, Alaska Immunization Program  
Division of Public Health  
Alaska Dept. of Health and Social Services  
12.6.07*

**3.0 VENDOR'S BID QUOTATION**

3.1 The vendor will include all costs necessary for all services and products provided pursuant to the terms of the contract broken down by project milestones.

3.2 The vendor will provide separate annual maintenance and technical support costs.

**BID QUOTATION SHEET**

Qty	Description	Unit Cost	Total Cost
1 ea.	<i>Software Application</i>	\$ 305,028	
160	<i>Technical Services</i>	Included	
Hours	Implementation Planning	\$ -	
	Installation	\$ -	
	Configuration and Customization*	\$ -	
	Documentation Development	\$ -	
40	<i>On-site Training</i>	Included	
Hours			
	<i>Documentation (in paper and electronic Format)</i>	Included	
1 ea.	System Installation Manual	\$ -	
1 ea.	System Administration Manual	\$ -	
1 ea.	User Manual	\$ -	
1 ea.	Data Dictionary	\$ -	
1 ea.	Entity Relationship Diagram	\$ -	
	<i>Software Maintenance</i>		
	Year 2	\$ 248,715	
	Year 3	\$ 263,638	
	<i>Technical Support</i>		
	Year 2	\$ -	
	Year 2	\$ -	
<b>Grand Total</b>		<b>\$ 817,381</b>	

\* No customizations have been included. As suggested in this submittal, the few that may be required are all good candidates for leveraged pricing through the STC Sentinel User Consortium and therefore significantly reduced prices would be available to the State at that time

### 3.3 Addendum – Required Third Party Software

Software Product	Vendor	Estimated Cost (per license)	Comments
Crowd	Atlassian	\$ 2,000	STC recommends Crowd product as an optional Single Sign-On solution. The detailed information is available at <a href="http://www.atlassian.com/software/crowd/">http://www.atlassian.com/software/crowd/</a>
Crystal Reports	SAP	Varies, depending on the edition	STC recommends Crystal Reports as an optional reporting package to provide extended reporting capabilities that are not available in the standard Sentinel report suite.
ArcGIS Server for Java Platform	ESRI	\$ 16,300	STC recommends the ArcGIS product as an optional product to provide GIS features in the solution.

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**VENDOR OWING A DEBT TO THE STATE:**

*West Virginia Code* §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

**PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:**

If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code*. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code* and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the *West Virginia Code* may take place before their work on the public improvement is begun.

**ANTITRUST:**

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

**LICENSING:**

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

**CONFIDENTIALITY:**

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated

Vendor's Name: Scientific Technologies Corporation  
Authorized Signature: *Michael H. Ryan* Date: 7/20/09

**AGREEMENT ADDENDUM**

WV-96  
rev 10/07

In the event of conflict between this addendum and the agreement, this addendum shall control:

1. **DISPUTES** - Any references in the agreement to arbitration or to the jurisdiction of any court are hereby deleted. Disputes arising out of the agreement shall be presented to the West Virginia Court of Claims.
2. **HOLD HARMLESS** - Any clause requiring the Agency to indemnify or hold harmless any party is hereby deleted in its entirety.
3. **GOVERNING LAW** - The agreement shall be governed by the laws of the State of West Virginia. This provision replaces any references to any other State's governing law.
4. **TAXES** - Provisions in the agreement requiring the Agency to pay taxes are deleted. As a State entity, the Agency is exempt from Federal, State, and local taxes and will not pay taxes for any Vendor including individuals, nor will the Agency file any tax returns or reports on behalf of Vendor or any other party.
5. **PAYMENT** - Any references to prepayment are deleted. Payment will be in arrears.
6. **INTEREST** - Should the agreement include a provision for interest on late payments, the Agency agrees to pay the maximum legal rate under West Virginia law. All other references to interest or late charges are deleted.
7. **RECOUPMENT** - Any language in the agreement waiving the Agency's right to set-off, counterclaim, recoupment, or other defense is hereby deleted.
8. **FISCAL YEAR FUNDING** - Service performed under the agreement may be continued in succeeding fiscal years for the term of the agreement, contingent upon funds being appropriated by the Legislature or otherwise being available for this service. In the event funds are not appropriated or otherwise available for this service, the agreement shall terminate without penalty on June 30. After that date, the agreement becomes of no effect and is null and void. However, the Agency agrees to use its best efforts to have the amounts contemplated under the agreement included in its budget. Non-appropriation or non-funding shall not be considered an event of default.
9. **STATUTE OF LIMITATION** - Any clauses limiting the time in which the Agency may bring suit against the Vendor, lessor, individual, or any other party are deleted.
10. **SIMILAR SERVICES** - Any provisions limiting the Agency's right to obtain similar services or equipment in the event of default or non-funding during the term of the agreement are hereby deleted.
11. **ATTORNEY FEES** - The Agency recognizes an obligation to pay attorney's fees or costs only when assessed by a court of competent jurisdiction. Any other provision is invalid and considered null and void.
12. **ASSIGNMENT** - Notwithstanding any clause to the contrary, the Agency reserves the right to assign the agreement to another State of West Virginia agency, board or commission upon thirty (30) days written notice to the Vendor and Vendor shall obtain the written consent of Agency prior to assigning the agreement.
13. **LIMITATION OF LIABILITY** - The Agency, as a State entity, cannot agree to assume the potential liability of a Vendor. Accordingly, any provision limiting the Vendor's liability for direct damages to a certain dollar amount or to the amount of the agreement is hereby deleted. Limitations on special, incidental or consequential damages are acceptable. In addition, any limitation is null and void to the extent that it precludes any action for injury to persons or for damages to personal property.
14. **RIGHT TO TERMINATE** - Agency shall have the right to terminate the agreement upon thirty (30) days written notice to Vendor. Agency agrees to pay Vendor for services rendered or goods received prior to the effective date of termination.
15. **TERMINATION CHARGES** - Any provision requiring the Agency to pay a fixed amount or liquidated damages upon termination of the agreement is hereby deleted. The Agency may only agree to reimburse a Vendor for actual costs incurred or losses sustained during the current fiscal year due to wrongful termination by the Agency prior to the end of any current agreement term.
16. **RENEWAL** - Any reference to automatic renewal is hereby deleted. The agreement may be renewed only upon mutual written agreement of the parties.
17. **INSURANCE** - Any provision requiring the Agency to insure equipment or property of any kind and name the Vendor as beneficiary or as an additional insured is hereby deleted.
18. **RIGHT TO NOTICE** - Any provision for repossession of equipment without notice is hereby deleted. However, the Agency does recognize a right of repossession with notice.
19. **ACCELERATION** - Any reference to acceleration of payments in the event of default or non-funding is hereby deleted.
20. **CONFIDENTIALITY** - Any provision regarding confidentiality of the terms and conditions of the agreement is hereby deleted. State contracts are public records under the West Virginia Freedom of Information Act.
21. **AMENDMENTS** - All amendments, modifications, alterations or changes to the agreement shall be in writing and signed by both parties. No amendment, modification, alteration or change may be made to this addendum without the express written approval of the Purchasing Division and the Attorney General.

**ACCEPTED BY:**

**STATE OF WEST VIRGINIA**

Spending Unit: \_\_\_\_\_

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**VENDOR**

Company Name: Scientific Technologies Corporation

Signed: Michael L. Poirier

Title: President/CEO

Date: 7/20/09

ATTACHMENT  
PO # EHP90097

This agreement constitutes the entire agreement between the parties, and there are no other terms and conditions applicable to the licenses granted hereunder

Agreed

Michael S. Rosin      7/20/09  
Signature                  Date

President/CEO  
Title

Scientific Technologies Corporation  
Company Name

\_\_\_\_\_  
Signature                  Date

\_\_\_\_\_  
Title

\_\_\_\_\_  
Agency/Division