

**RFP No. 0509300249**  
**Bidders' Conference Attendance (1/25/07, 1-4 PM)**

| <u>Prospective Bidder</u> | <u>Address</u>   | <u>Contact</u> | <u>1st Attendant</u> | <u>2nd Attendent</u> |
|---------------------------|--|----------------|----------------------|----------------------|
| NYCHSRO/MedReview         | 199 Water Street, 27th Fl.<br>New York, N.Y. 10038             | Harriet Starr  | Harriett Starr       |                      |
| I PRO                     | 1979 Marcus Avenue<br>Lake Success, NY 11042                   | Harry M. Feder | Chris Clarke         | Patty Weinburg       |
| Delmarva Foundation       | 9240 Centreville Road<br>Easton, MD 21601                      | Linda Oliver   | Linda Oliver         | Julie Tyler          |
| APS Healthcare            | 8403 Colesville Road<br>Suite 1600<br>Silver Spring, MD. 20910 | Cindy Weinmann | Cindy Weinmann       | Cathy Shanover       |

**New York State Department of Health**

**REQUEST FOR PROPOSALS, RFP No. 0509300249: To Conduct Monitoring Activities for Early Intervention and Other Programs and to Review Early Intervention Provider Applications**

**Bidders Conference, January 25, 2007, 1 PM to 4 PM  
Written Questions and Answers**

**Please pay special attention to the information provided in the Question and Answer that is shaded in grey. This information is an amendment to the RFP.**

| <b>RFP Reference</b>   | <b>Question</b>   | <b>Answer</b>  |
|--|---|--|
| 14 of 74<br>I.B.<br>4th bullet under <u>Conduct Monitoring of Department of Health-Contracted Providers for Selected Clinical Programs</u> | 1. Please explain what is meant by “scheduling of visits at times acceptable to the <i>contract</i> ”. [Note: <i>Emphasis added.</i> ]  | This bullet should have stated “scheduling of visits at times acceptable to the contractor”. |
| 17 of 74<br>II.<br>1st paragraph   | 2. As monitoring of municipalities and contracted early intervention providers has been underway since June 2002 through a contract scheduled to end July 31, 2007, can you provide the name of the current contractor? | Island Peer Review Organization  |
| 21 of 74<br>III.A.1.a.ii.<br>4th paragraph   | 3. Two different numbers of focused reviews to be completed quarterly has been provided; 44 and 45. Please clarify.   | The correct number of providers to receive focused reviews each quarter is 45.               |

| RFP Reference  | Question   | Answer  |
|--|--|---|
| 23 of 74<br>III.A.1.d.<br>1st paragraph                | 4. Please provide more detail about the existing monitoring data application in terms of hardware and software requirements, so that the applicant can determine what is needed to support and maintain this system. | Please see the attached document “Data Collection and Reporting System Documentation.”  |
| 24 of 74<br>III.A.1.d.<br>4th bullet and 1st paragraph | 5. Please provide more information or a reference for the Department’s standards regarding confidentiality, security of data exchanges, and VPN.   | More detail is presented in the NYSDOH policy statements labeled: APPM425_Remote Access Standards and Procedures, APPM425_3Remote Access Policy and the DOH Network Configuration Policy Attachment.  |
| 24 of 74<br>III.A.1.d.i.<br>last bullet on page        | 6. Please provide more information on the NYS Early Intervention System data system, to enable the applicant to assess what is needed to be able to link with it.  | More detail is presented in the attachment labeled: "NYEIS Interfaces Overview"   |
| 31 of 74<br>III.A.2.c.ii.<br>1st paragraph             | 7. Please explain why it is required that the Monitoring Coordinator be located in the Capital District. Can this be modified?   | The Monitoring Coordinator will be the primary contact with the Department regarding day-to-day monitoring activities and will have frequent in person meetings with Department staff. This requirement can not be modified.                      |
| 32 of 74<br>III.A.2.c.iii.<br>1st paragraph            | 8. Please explain why it is required that the Early Intervention Provider Application Coordinator be located in the Capital District. Can this be modified?  | The EIP Provider Application Coordinator will be the primary contact with the Department regarding day-to-day provider approval activities and will have frequent in person meetings with Department staff. This requirement can not be modified. |

| RFP Reference                                     | Question  | Answer  |
|---|---|---|
| 32 of 74<br>III.A.2.c.iv.<br>2nd paragraph        | 9. Please explain why it is required that one of the Monitoring Quality Assurance Specialists be located in the Capital District. Can this be modified?   | The Monitoring Quality Assurance Specialists will be the key staff in contact with the Department regarding day-to-day monitoring activities and will have frequent in person meetings with Department staff. This requirement can not be modified. |
| 40 of 74<br>III.A.4.<br>3rd paragraph             | 10. Please clarify whether the Early Intervention Schedule of Deliverables is specified in working days or calendar days.   | Calendar days   |
| Attachment C-1, page 2 of 2                       | 11. The structure of the Early Intervention Bid Detail Sheet seems to indicate that cost increases are only permitted between years 3 and 4 of the contract, as opposed to within years 1 to 3, and 4 to 5. Please clarify. | Cost increases are only permitted between years 3 and 4 of the contract.  |
| Attachment I, page 5 of 6<br>Parent Questionnaire | 12. Is it required that the Parent Questionnaire be delivered face-to-face?   | No. Attachment H, page 1 of 2 states that it will be mailed with follow up phone calls to complete the survey, as needed.   |
| General   | 13. Will the Department distribute the conference call number and time for the Bidder's Conference on January 25, 2007?   | Yes, this information was provided to anyone who submitted Attachment O and indicated an intent to attend the bidders' conference.  |
| General   | 14. Since the Bidder's Conference is conducted as a conference call, will the Department provide a list of participants either in advance or after the call?  | Yes, the list of participants who attended the bidder's conference is attached.   |

| <b>RFP Reference</b>          | <b>Question</b>   | <b>Answer</b>  |
|-------------------------------|---|--|
| Section III.A.1.a.i, page 18. | 15. The Department indicates an average of 3 days review for municipal providers, 2 days for agencies, and 0.5 days for individual providers. Do these numbers include travel time? Could the Department also indicate travel separately from site review time? Also, do review timeframes include pre-site preparation time? | No, the numbers are actual site review times and do not include travel time. Travel times will vary depending on the bidder's proposal. Review timeframes do not include pre-site preparation time.  |
| Section III.A.1.d.i, page 23. | 16. There are requirements for system compatibility with the NYEIS and other database software. Could the Department provide specifications or a more detailed description for these requirements?  | The NYEIS and the "Provider" database referenced on pages 24 and 25 will not be directly accessed by the monitoring application. The NYEIS database, which will contain the "Provider" database, will be implemented in Oracle (10g currently). Linking and exchanging of data will be effected through interface capabilities provided by NYEIS as described in the answer to question 6. |

### Questions Asked at Bidders' Conference

| <b>RFP Reference</b>                   | <b>Questions</b>  | <b>Answers</b>  |
|--|---|---|
| Bid Detail Sheet                       | <p>1. NYCHSRO, Harriet Starr, question about the Bid Detail form which indicates that cost increases are permitted between years three and four of the contract, but does that mean that between years one and three and between years four and five, no increases are permitted?</p> <p>So there has to be a flat cost then between years one and three. Is that what you're saying?</p>                                       | <p>The cost increases are only permitted between years three and four of the contract.</p> <p>That is correct.</p>  |
| Letters of support                     | <p>2. IPRO, Chris Clarke, on P. 58, Section V. E. 1., last paragraph, last bullet, and it is also on Attachment A1, P 1 of 2. Please clarify the submission of letters of support in regard to submission of the technical proposal. Are letters of support a required submission as it would be a conflict of interest to request letters of support from counties, providers and other entities involved with monitoring.</p> | <p>The bidder must provide a list of references as outlined on page 51, Section IV.B.2.b. of the RFP.</p> <p>Letters of support are allowable but not required as stated on page 58, Section V.E.1.</p>   |
| Section III, B 1 A paragraph 2 Page 43 | <p>3. IPRO, Chris Clarke, on P 43, Section III. B.1. a., paragraph 2. In regard to the optional monitoring component, is the Department considering the use of an electronic application to collect and/or report data and monitoring assessment results, and if so, should this be incorporated into the cost proposal?</p>  | <p>The Department expects bidders to submit proposals that include the use of electronic application(s) to collect and/or report data and monitoring assessment results, and should incorporate this into the cost. Applicants can refer to page 43 of the RFP for further information.</p> |

|                         |   |  |
|-------------------------|---|--|
| Section IV B 1A Page 43 | <p>4. IPRO, Chris Clarke, on P 48, Section IV. B. 1.a. Would the Department consider extending the page limit for the technical proposal for the monitoring and provider application component from 20 pages to 25-30 pages?</p> <p>5.</p>  | No, we will maintain the 20 page limit as listed in the RFP.   |
| General                 | <p>6. IPRO, Chris Clarke. Did anyone join the call subsequent to the initial roll call?</p>   | No   |
| Transitional Contractor | <p>7. APS Healthcare, Cynthia Wyman. On the provider monitoring and on the provider application part, will there be any workload that needs to be assumed by a transitioning contractor if a different one is selected?</p> <p>Will there be any work in progress that needs to be transitioned to a new contractor?</p> <p>Let's say, you're receiving provider applications and there may be some where there are additional questions or not all of the information has been received in terms of perhaps checking people's references and things like that, and as the contract ends in July and the new contractor comes in on August 1, do you see any portion of the workload that might not have been finished up needing to be transitioned to another contractor?</p> | <p>No, there will not be any workload transition related to provider approval as there is no current contractor for these activities.</p> <p>Yes, it is likely there will be work in progress that needs to be transitioned for provider monitoring.</p> |

## **DOH Network Configuration Policy**

An organization or Internet domain may contain several types of networks. Each type of network provides different methods of risk reduction, depending on the network access needs. Below is a basic definition of acceptable network configurations.

### 1.1.1 All Networks

Requirements:

- Eavesdrop-proof through use of secure hubs and/or switches;
- Isolated from other networks via secured network devices such as firewalls and/or state-full routers;
- Logging of all successful and failed attempts should occur at all network perimeter devices;
- Logs should be stored on protected hosts;
- Logs should be reviewed at least every business day;
- Hosts must comply with security modules as described in <http://www.cert.org/security-improvement/index.html>; and
- Network users and administrators must receive security awareness training.

### 1.1.2 Untrusted Networks

Definition: A network outside of the direct, immediate control of the organization.

Example: Internet.

Requirements:

- Only firewalls and/or firewall-grade router devices should reside on an untrusted network; and
- Management of devices on an untrusted network must be via a trusted connection to the device.

### 1.1.3 External Networks

Definition: Servers that require unauthenticated access from untrusted networks, such as the Internet.

Example: Network containing public web or mail servers.

Requirements:

- No client (user) machines should reside on an external network;
- Devices should be protected by packet-filtering firewalls and/or firewall-grade routers;

- Devices must run robust operating systems and be hardened against attack. Hardening includes loading of all applicable patches as they are released and removing unneeded services;
- No confidential or sensitive information may be stored, either temporarily or permanently, on any devices on this network except as needed for fundamental system operation and then only if encrypted (/etc/shadow, for example);
- Network logs should be archived for a least six (6) months;
- Application logging should be activated wherever possible and reviewed at least every business day;
- Inbound and outbound connectivity should be limited to needed services\* but may go to and come from any type of network; and
- Authentication systems must be centrally managed.

#### 1.1.4 E-commerce Networks

Definition: Servers that provide authenticated access from untrusted networks, such as the Internet.

Example: Networks used to transact confidential information with clients and/or partners.

Requirements:

- No client (user) machines should reside on an e-commerce network;
- Devices should be protected by packet-filtering firewalls and/or firewall-grade routers;
- Devices must run robust operating systems and be hardened against attack; hardening includes loading of all applicable patches as they are released and removing unneeded services;
- Network logs should be archived for a least six (6) months;
- Application logging must be activated wherever possible and reviewed at least every business day;
- Confidential or sensitive information stored on devices in this network must be secured independently from network access security control (for example, separate password files) wherever possible;
- Confidential or sensitive information stored on devices in this network must be encrypted using above-average encryption strength (currently 128-bit) except where the information is required for basic system operation and encryption beyond industry-standard levels (currently 56-bit) is not available (example: /etc/shadow);
- Confidential or sensitive information transferred to or across untrusted networks must be encrypted;

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\* DOH Security Unit will perform the risk benefit analysis prior to approval and deployment of services.

- System and application standards designed to protect the systems, applications and network must be established by the system administrators;
- Access to systems must be limited to needed parties and must be approved, where applicable, by data owners;
- Inbound and outbound connectivity should be limited to needed services\* ;
- Inbound connectivity from untrusted networks must be authenticated; authentication must be encrypted to industry-standard levels (at least 56-bit at time of writing); and
- Authentication systems must be centrally managed.

#### 1.1.5 Private Networks

Definition: Internal network which hosts users and internal-only applications and servers.

Example: Corporate intranet.

Requirements:

- Devices should be protected by packet-filtering firewalls and/or firewall-grade routers;
- Devices should be maintained in a secure state;
- An automated virus-protect solution must be in operation;
- Network logs should be archived for a least six (6) months;
- Application logging should be activated wherever possible and frequently reviewed by the individual(s) responsible for the application;
- Access to systems must be limited to needed parties and must be approved, where applicable, by data owners;
- No inbound connectivity from untrusted networks is permitted;
- Inbound connectivity from e-commerce networks is permitted provided the private network devices run robust operating systems and hardened against attack; hardening includes loading of all applicable patches as they are released and removing unneeded services; the needed services cannot provide access beyond the scope of the need. \*;
- Outbound connectivity should be limited to only needed services\*; and
- Authentication is required for access to confidential or sensitive information; this includes information temporarily or permanently stored on PCs or other single-user devices.

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\* DOH Security Unit will perform the risk benefit analysis prior to approval and deployment of services.

### 1.1.6 Secured Private Networks

Definition: Servers that hold the organization's most sensitive information and are secured from all other types of networks.

Example: Network containing database servers containing credit card or patient-identifying data.

Requirements:

- No client (user) machines should reside on a secured private network;
- Devices should be protected by packet-filtering firewalls and/or firewall-grade routers;
- Devices must run robust operating systems and be hardened against attack; hardening includes loading of all applicable patches as they are released and removing unneeded services;
- Network logs should be archived for a least six (6) months;
- Application logging must be activated wherever possible and reviewed at least every business day;
- Confidential or sensitive information stored on devices in this network must be secured independently from network access security control (for example, separate password files) wherever possible;
- System and application standards designed to protect the systems, applications and network must be established by the system administrators;
- Access to systems must be limited to needed parties and must be approved, where applicable, by data owners;
- Inbound and outbound connectivity should be limited to needed services\* ;
- No inbound connectivity from or through untrusted networks is permitted; and
- Authentication systems must be centrally managed.

### 1.1.7 Recommended Best Practices

- Network Intrusion Detection Systems be deployed at strategic locations; and
- Network Mapping/Scanning be done at regular intervals to detect vulnerabilities.

### 1.1.8 NYSDOH Auditing

- Network administrators must provide written confirmation of policy compliance prior to full production implementation and quarterly thereafter; this attestation must be supported by detailed network descriptions, which address the related policy aspects;

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\* DOH Security Unit will perform the risk benefit analysis prior to approval and deployment of services.

- NYSDOH Security Office will be provided secure shell (SSH) access to at least one device in each network; the account must have privilege to create network sockets;
- NYSDOH Security Office reserves the right to conduct on-site inspection of network infrastructure for the purpose of policy-compliance verification; and
- Modifications to these auditing requirements may be negotiated but should not be assumed.

## NYSDOH Network Configuration Policy Diagram

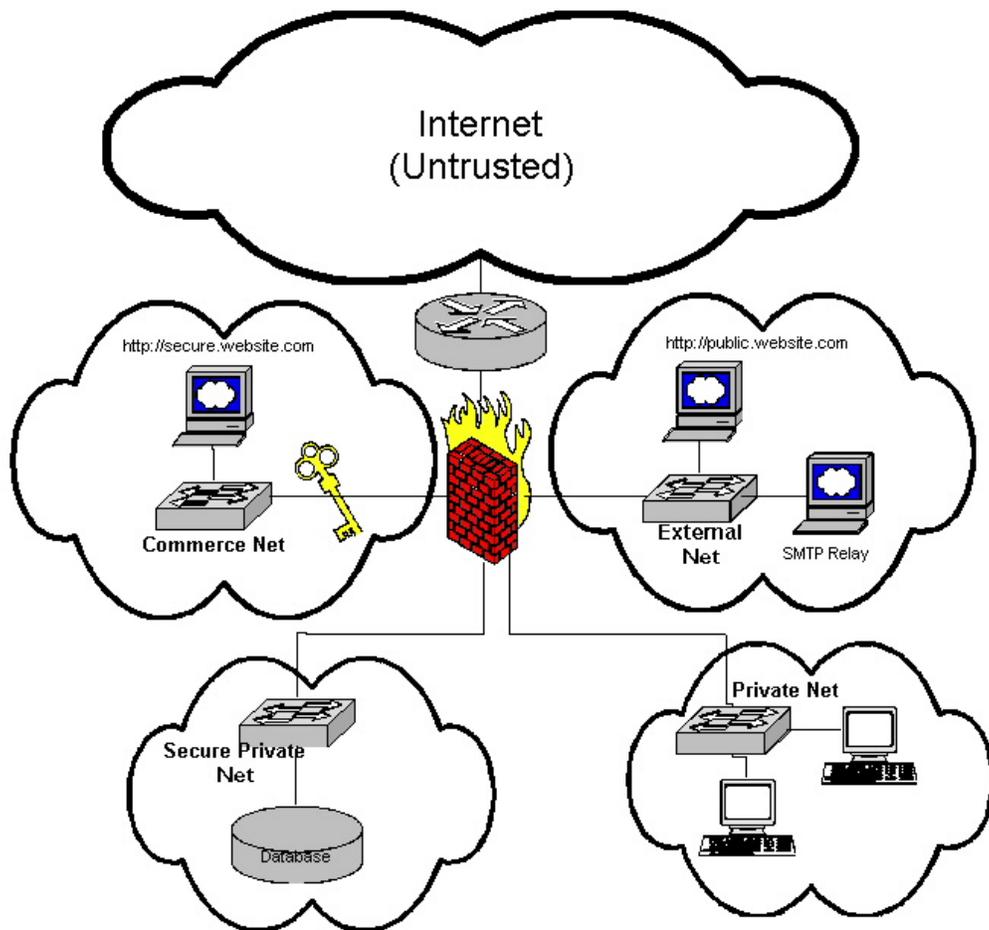


Figure 1, DOH Network Configuration Policy Diagram

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## **NYEIS SYSTEM INTERFACES OVERVIEW**

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**New York Early Intervention System  
New York State Department of Health  
Center For Community Health  
Division of Family Health  
01/16/2007**

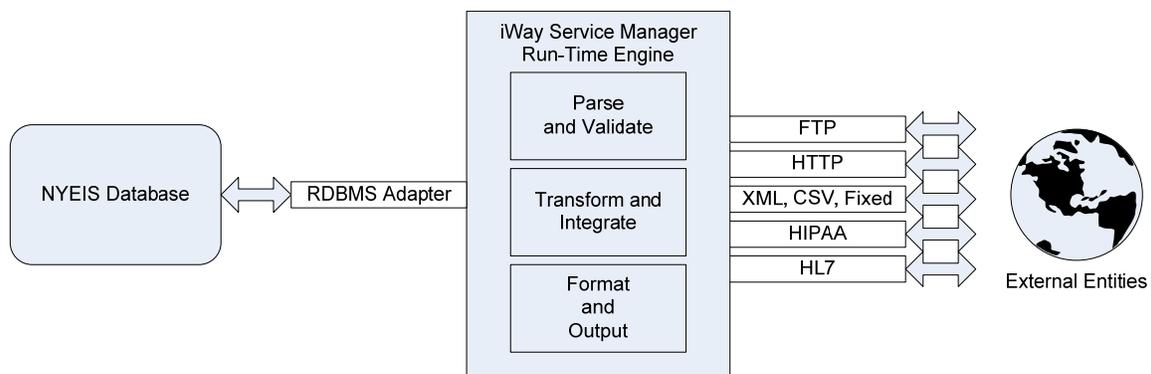
## NYEIS System Interfaces Overview

### ***NYEIS System Interface Architecture***

The NYEIS application is based on a service oriented architecture (SOA). The architecture supports both batch and real-time interfaces using a variety of formats. NYEIS is being built on the Division of Family Health – Standard Application Integration Environment (DFH-SAIE) framework which includes products from Cúram Software and Information Builders to support system interfaces. In addition the DFH-SAIE reporting infrastructure can support the creation of data extracts.

The DFH-SAIE framework utilizes the iWay Service Manager from Information Builders to provide an Enterprise Service Bus (ESB) through which all system interfaces will be processed. The iWay Service Manager performs a three step process on each system interface transaction: 1) Parse and Validate the data, 2) Transform and Integrate the data, 3) Format and Output the data.

In step 1 the data is converted from the format that it is received in to XML through the use of adapters. DFH-SAIE and by extension NYEIS currently includes the following adapters: FTP, HTTP, XML, CSV, Fixed Format, HIPAA and HL7. This allows NYEIS to process data coming in utilizing any of the above transmission protocols and file formats without custom coding.



Because DFH-SAIE is utilizing an adapter based ESB, if the need arises to create a system interface using a format that is not currently supported, additional adapters can be purchased and implemented with little impact.

The reporting infrastructure supports the creation of file extracts in a variety of formats based upon the report format defined. NYEIS users have the capability to define their own report formats and to specify the formats that the data should be exported in.

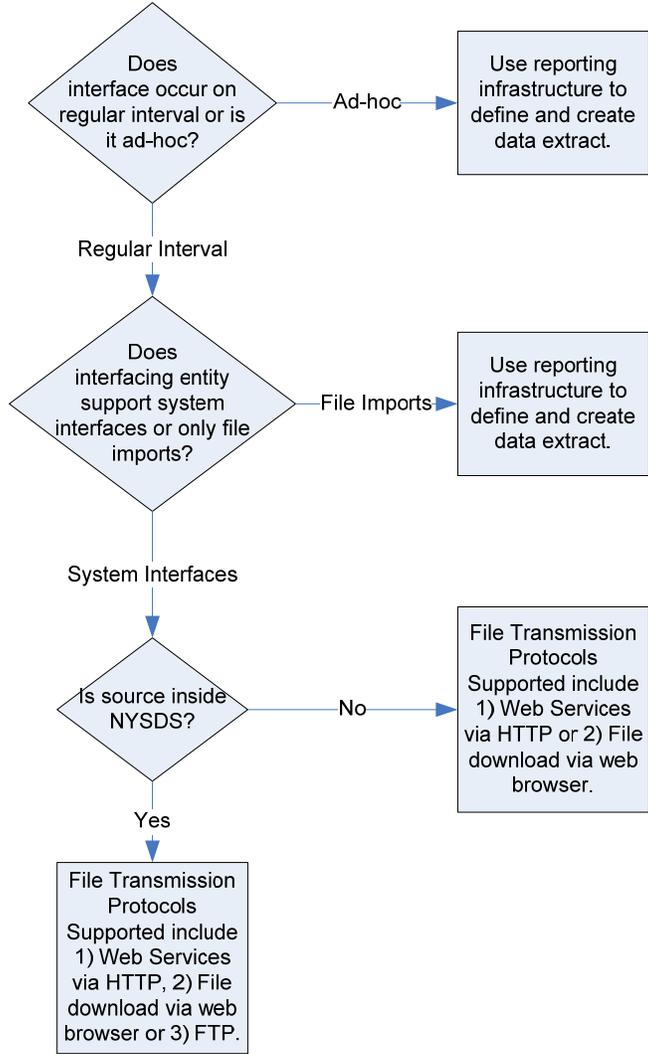
### ***NYEIS System Interface Data Transmission Protocols***

The NYEIS application servers will reside in the state data center. Security restrictions will impact the file transmission protocols available. Decision flows are presented below

1/16/2007

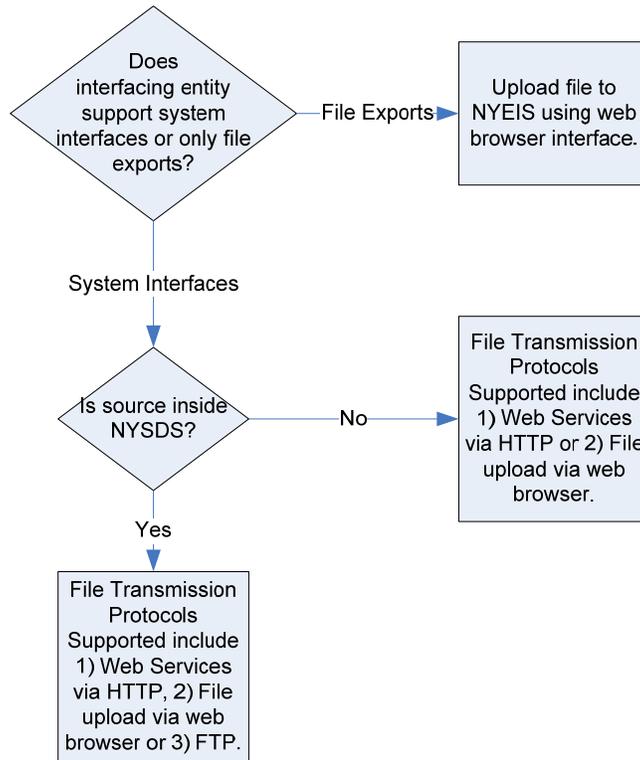
to aid in the determination of the available transmission protocols for data inbound into NYEIS and data outbound from NYEIS.

Outbound System Interface Transmission Protocol Selection



1/16/2007

### Inbound System Interface Transmission Protocol Selection



### ***NYEIS System Interface Data File Formats***

NYEIS currently supports any of the following file formats:

- Comma Separated Value (CSV) – this includes any sort of delimited file, including comma delimited, tab delimited, etc.
- Fixed File
- XML
- HIPAA
- HL7

Any of the above file formats can be used with any of the available transmission protocols.



## **NYSDOH - Administrative Policy and Procedure Manual**

### **425.3 Remote Access Policy**

While connected to DOH computer resources, users may not be connected to any other network unless under the following circumstances:

- The connection to DOH uses a secure virtual private networking (VPN) technology, which has been approved by the DOH ISO, through another network (for example, a RoadRunner connection to the Internet).
- The connection is established via a standard web browser, such as Microsoft Internet Explorer or Netscape Navigator, over another network (for example, a RoadRunner connection to the Internet).
- The connection has been explicitly approved in writing by the DOH Information Security Officer.

Connections to other networks while being connected to DOH create a vulnerability and a risk to agency data. Examples of unacceptable connections are:

- simultaneous connection to a RoadRunner cable modem and a DOH Dial-in connection. You **MUST** disconnect your RoadRunner cable connection prior to establishing a direct DOH dial in connection session.
- simultaneous dial in connections using two modems in the same computer. If you have two modem cards and two phone lines, you cannot be connected to DOH through one modem and another network, i.e., AOL, through the other modem.

If a connection is questionably of this type, it should not be established or should be disconnected prior to connection with DOH.

Remote connections must be established in accordance with the "Remote Access Standards and Procedures" document approved by the ISO, unless otherwise authorized by the ISO. This document is available in the NYSDOH Lotus Notes Questions and Answers database or by request to the office of the ISO. These standards may require use of remote access exclusively from DOH issued equipment or grant DOH authority over the equipment used for remote access.

All data communications involving DOH computer equipment must be secured from the remote access devices to the DOH network. Use of private wire-based telecommunications lines, such as a standard telephone line, and/or use of an encrypted transport method, such as VPN or HTTPS, is required. Use of wireless communications must follow NYSDOH Wireless Policy.

Users are expected to fully terminate their DOH remote connection upon completion of their work.

#### **ENFORCEMENT AND VIOLATIONS**

The guidelines established with this policy are intended to be illustrative of the range of acceptable and unacceptable uses of remote access to DOH computing resources and are not necessarily exhaustive. Questions about specific uses not enumerated in this policy statement should be directed by e-mail to the userid SECURITY. Reports of specific unacceptable uses must be reported to the userid SECURITY. Other questions about appropriate use should be directed to your supervisor and/or the Bureau of Employee Relations/Staff Development.

The Department will review alleged violations of this policy on a case-by-case basis. Violations of the policy must be promptly remedied and may result in termination of remote access services for the person(s) at fault, and referral for disciplinary actions as appropriate.

All exceptions to this policy must undergo prior approval by the DOH ISO.

**NYSDOH - Administrative Policy and Procedure Manual**  
**425.3 Remote Access Policy**

**RELEVANT POLICIES:**

APPM 35.1 Use of Department Resources  
APPM 100.0 Release of Info To Outside Group/Freedom Info/Record Access  
APPM 100.3 Release of Records/Information - Investigation and Enforcement Actions  
APPM 101.0 Intra-Agency Access to and Disclosure of Personal Health Related Information  
APPM 265.2 Equipment Use and Security Policy  
APPM 420.0 Electronic Mail  
APPM 425.0 Computer User Requirements/Security  
APPM 425.1 Internet Acceptable Use and Security Policy  
APPM 425.2 Information Technology Security Definitions  
APPM 430.0 Media Disposal Policy  
APPM 435.0 Workstation Use and Security Policy  
APPM 435.1 Laptop and Portable Computing Device Policy  
NYS Cyber Security Policy P03-002 Information Security Policy

**CONTACT INFORMATION**

Questions concerning this policy may be directed to the *New York State Department of Health, Information Security Officer* at [security@health.state.ny.us](mailto:security@health.state.ny.us).

# Remote Access Standards and Procedures

Related Policy: *APPM 425.3*, Remote Access Policy

## Summary:

These procedures shall provide guidance for implementation of the Department of Health *APPM 425.3 – Remote Access Policy*. Variations of the procedures may be acceptable, provided they address the requirements in the Remote Access Policy and the Standards outlined below. In accordance with *APPM 425.3*, procedure variations must be approved by the *NYSDOH ISO*.

## Standards:

All remote access devices must comply with any other appropriate *NYSDOH* policies, potentially including, but not limited to *APPM 430.0 – Media Disposal Policy*, *APPM 435.0 – Workstation Use and Security* and *APPM 435.1 – Laptop and Portable Device Policy*.

Physical or logical systems must exist which provide network security of devices while connected to *NYSDOH* networks, ensure the device cannot be made to span between two networks. Where technically feasible, client-based firewall software must be employed when accessing non-browser-based *NYSDOH* resources.

This software must be configured to deny access to any non-*NYSDOH* resources while connected to non-browser-based *NYSDOH* resources, unless otherwise approved by the *NYSDOH ISO*.

Use of a common access point is required. This means that all remote connections to *NYSDOH* networks must be made through managed central points-of-entry approved by the *NYSDOH ISO*.

While under the responsibility of *NYSDOH*, physical or logical systems must exist to aid in the protection of sensitive data stored on any remote access device, whether or not the device is currently in use. Where technically feasible, this should include full-disk encryption and client-based firewall software configured to deny inbound network communications.

Remote access devices, such as *workstations* and *portable computing devices*, should be easily supportable, to ensure compliance with other appropriate policies and to limit the *NYSDOH* cost of operations.

*NYSDOH* will provide all resources required for remote access where remote access is a requirement for an individual's job. Individuals who elect to use remote access systems, but are not required to do so, may be required to provide some or all of resources necessary.

Remote computer access will only be provided to personnel who have a demonstrated need to access corporate computer systems from off-site locations.

All personnel requesting remote computer access must sign an acceptable use agreement which acknowledges review and acceptance of *APPM 425.3*, Remote Access Policy, or

similar agreements approved by the *NYSDOH ISO* which account for these requirements. The request must also have signed approval by the requestor's supervisor and bureau level director or higher.

For vendor access to *NYSDOH* networks, individual accountability is also required. For those systems (hardware or software) for which there is a built-in, non-individual user id for periodic maintenance, where technically feasible, the account must be disabled until the user id is needed. The activity performed while this vendor user id is in use must be logged. Since these accounts are not regularly used, the vendor user id should be disabled, the password changed or other controls implemented to prevent or monitor unauthorized use of these privileged accounts during period of inactivity.

In special cases where servers, storage devices or other computer equipment has the capability to automatically connect to a vendor to report problems or suspected problems, the *ISO* must review any such connection and process to ensure that connectivity does not compromise the *NYSDOH* or other *third party* connections.

### **Procedures:**

The *NYSDOH ISO* strongly recommends non-browser-based remote access be conducted exclusively from *NYSDOH*-issued equipment, such as a laptop computer. The initial cost of this investment is overshadowed by the ability to ensure compliance with *APPM 430.0* and the *APPM 435.x* series and the ability to provide support given the limited support staffing resources available in the *NYSDOH*. Justifications and additional agreements must be signed and submitted to the *NYSDOH ISO* before non-DOH equipment can be used for network access.

Routine access to remote access equipment is to be via user-level (non-administrator privilege) access. Administrator privilege access is only to be assigned to appropriately trained and skilled individuals responsible for managing computing equipment. Users should use a non-privileged account for regular activities, including routine remote access.

Non-browser-based remote access devices should include *NYSDOH* approved client-firewall software, configured to deny all inbound communications and allow outbound communications exclusively to *ISHSG*-managed networks. Additional outbound connectivity to networks managed by other *NYSDOH* groups should be permitted where needed. Remote users should not have the ability to modify client-firewall settings.

Remote access devices must comply with all applicable *APPM 435.x* series requirements, including requirements for configuration certification at least quarterly, system patching at least monthly and anti-virus software updates at least weekly.

Request Forms for Remote Access can be obtained at <http://password.health.state.ny.us/ras/> or by sending an email to the userid [help@health.state.ny.us](mailto:help@health.state.ny.us).



**New York State  
Department of Health  
Bureau of Early Intervention**

**Quality Improvement Monitoring  
Initiative**

**Data Collection and  
Reporting System  
Documentation**

**August 2006**



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## **1.0 Early Intervention Monitoring System**

The IPRO-EI (Island Peer Review Organization – Early Intervention) Monitoring System is centered on a distributed architecture involving a central server repository, known as the PAMS, and a laptop based system, known as the PALS and Browser based Scheduler/provider access module. The current systems provide the following features:

### **Provider Assessment Master System (PAMS) – Server Module**

- Centralized visit scheduling allowing children, providers, staff, and events to be assigned to a visit.
- Performance of various surveys and tools online.
- Generation of a final report based on the results of various surveys performed by review staff.

### **Provider Assessment Laptop System (PALS) – Desktop/Laptop Module**

- Downloading of scheduled visit information from the PAMS server to PALS.
- Performance of various surveys and tools offline while conducting a review.
- Uploading of the survey results to the PAMS server for processing the final report.

### **Scheduler and Provider Access Module**

- Segregation of Provider/Municipalities by group for scheduling purposes.
- Creation, approval, and archiving of schedules by group.
- Assignment of multiple Providers\Municipalities to a specific visit.
- Assignment of multiple events (predefined and custom) to a specific visit.
- Assignment of multiple staff to a specific visit.
- Assignment of multiple children to a specific provider.
- Tracking of events by assigned staff.

## **1.1 Architecture**

The architecture of the systems is as follows:

The PAMS is an n-tier, Internet-based application consisting of a web server, a database server, and a RSA authentication server. The web server provides SSL encrypted access to users to allow scheduling and final report generation. Synchronization with the PALS is provided through the use of SSL encrypted web services. Communication between the web server and the RSA server is also accomplished through the use of a web service. All users accessing the system, either directly, or through synchronization from PALS, are authenticated by the RSA server using RSA “SecureID” tokens.



The PALS is a windows VB.Net system interface and a local Access database. Users are authenticated against the local database in offline mode, and against the PAMS database/RSA server in online mode.

The Scheduler/Provider Access module is web browser based thin client application.

All modules are built on a combination of VB.Net, IIS5, ASP 2.0, Visual Basic 6.0, SQL Server 2000 (PAMS), Access 2000 (PALS), Active Report.Net 2.0, and ASP.Net web services constructed using the SOAP.

PALS uses .NET Framework 1.1 developed by Microsoft in 2000, and allows rich user interface, some of the key features of PALS are:

- Robust and feature rich client interfaces allowing much more functionality than allowed by browser-based designs.
- Enhanced web service communication between distributed components.
- Enhanced deployment and maintenance capabilities.
- Improved application and enhancement development times.
- Improved system stability allowed by leveraging the inherent robustness of windows-based designs over browser-based designs.

To leverage the above design improvements into the IPRO system, PAMS/PALS system uses single system design, in which all the functionality provided are encapsulated in a single, easy to use, Windows-based application communicating with a centralized web service provider. This allows the EI system to realize the many performance, maintenance, and design improvements provided by the .NET Framework.

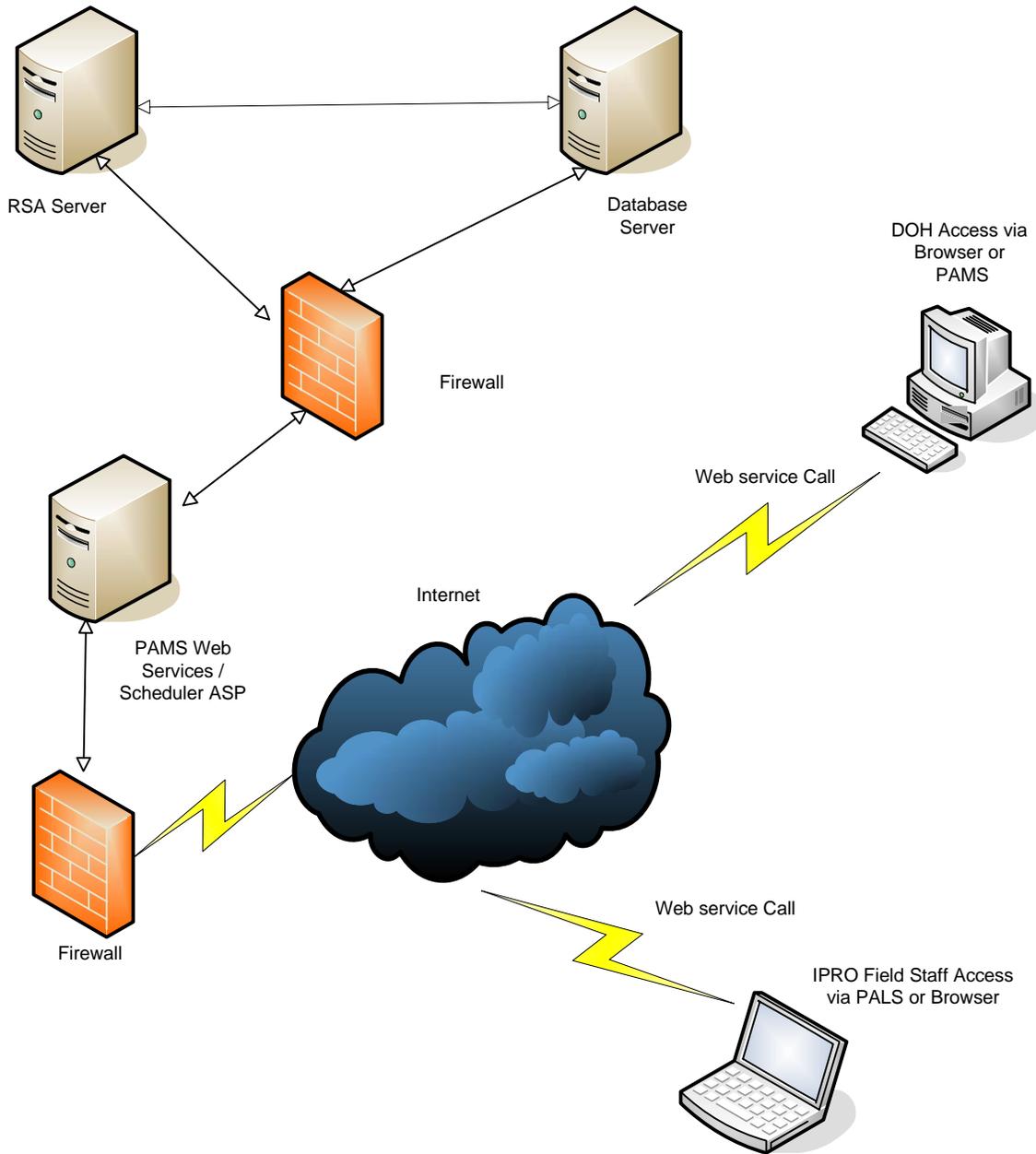
The system is comprised of the following components:

1. The PALS Desktop
  1. Offline functionality
  2. Online functionality
2. The PAMS Web Services Provider
  1. RSA Authentication of PALS Desktop users while in 'online' mode.
  2. Centralized data storage for uploading surveys performed while in PALS Desktop 'offline' mode.
  3. Centralized user services, such as scheduling and final report generation, which users will be accessing while in PALS Desktop 'online' mode.
3. The Scheduler module
  1. Segregation of Provider/Municipalities by group for scheduling purposes.



2. Creation, approval, and archiving of schedules by group.
3. Assignment of multiple Providers\Municipalities to a specific visit.
4. Assignment of multiple events (predefined and custom) to a specific visit.
5. Assignment of multiple staff to a specific visit.
6. Assignment of multiple children to a specific provider.
7. Tracking of events by assigned staff.
8. Limiting access and modification of schedules based on a user's level of access.

## PAMS, PALS, Scheduler Block Diagram

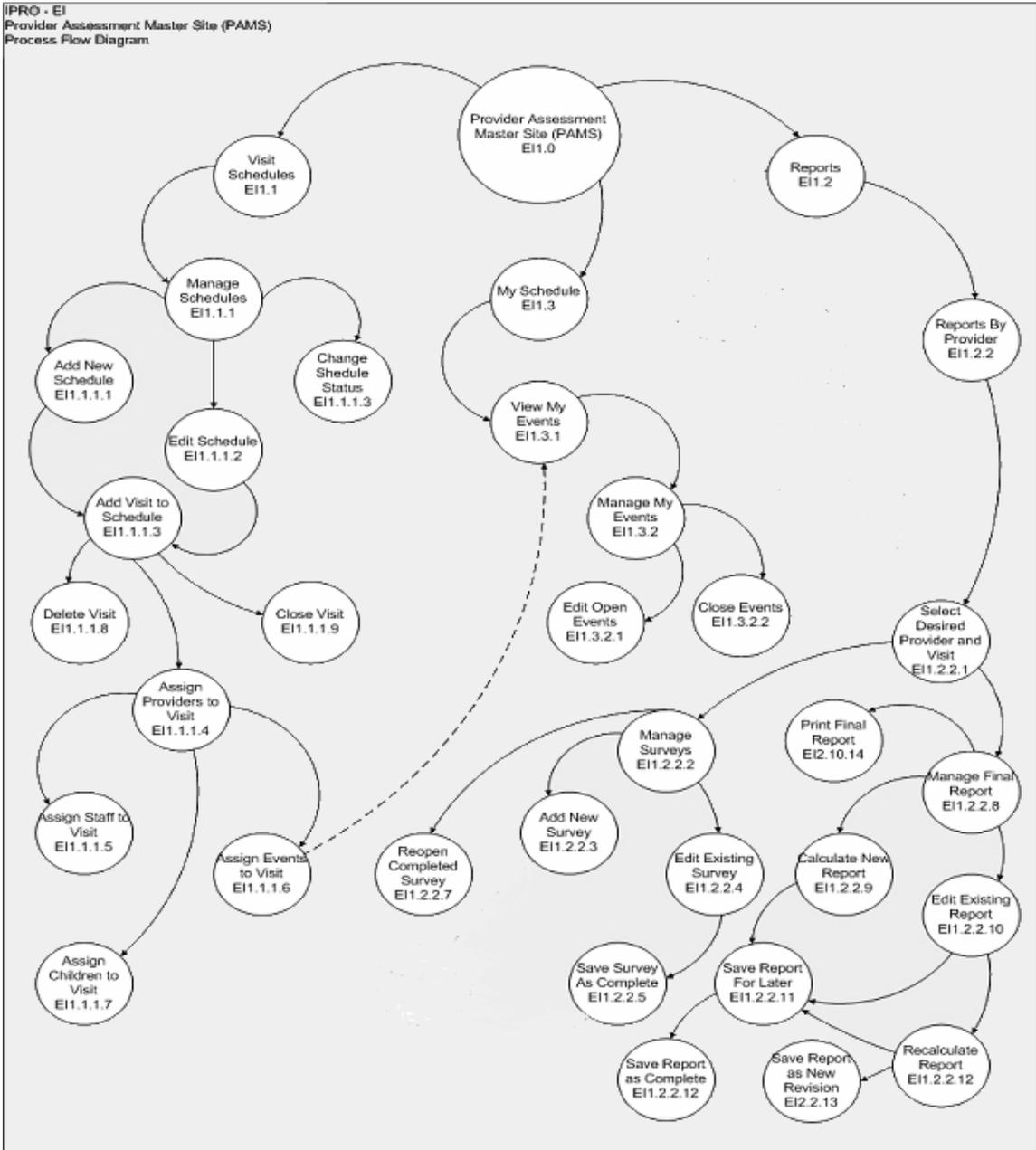


As displayed above, the PAMS web services and Scheduler ASP code runs on web server. DOH personnel and IPRO staff off site access PAMS services via the Internet.

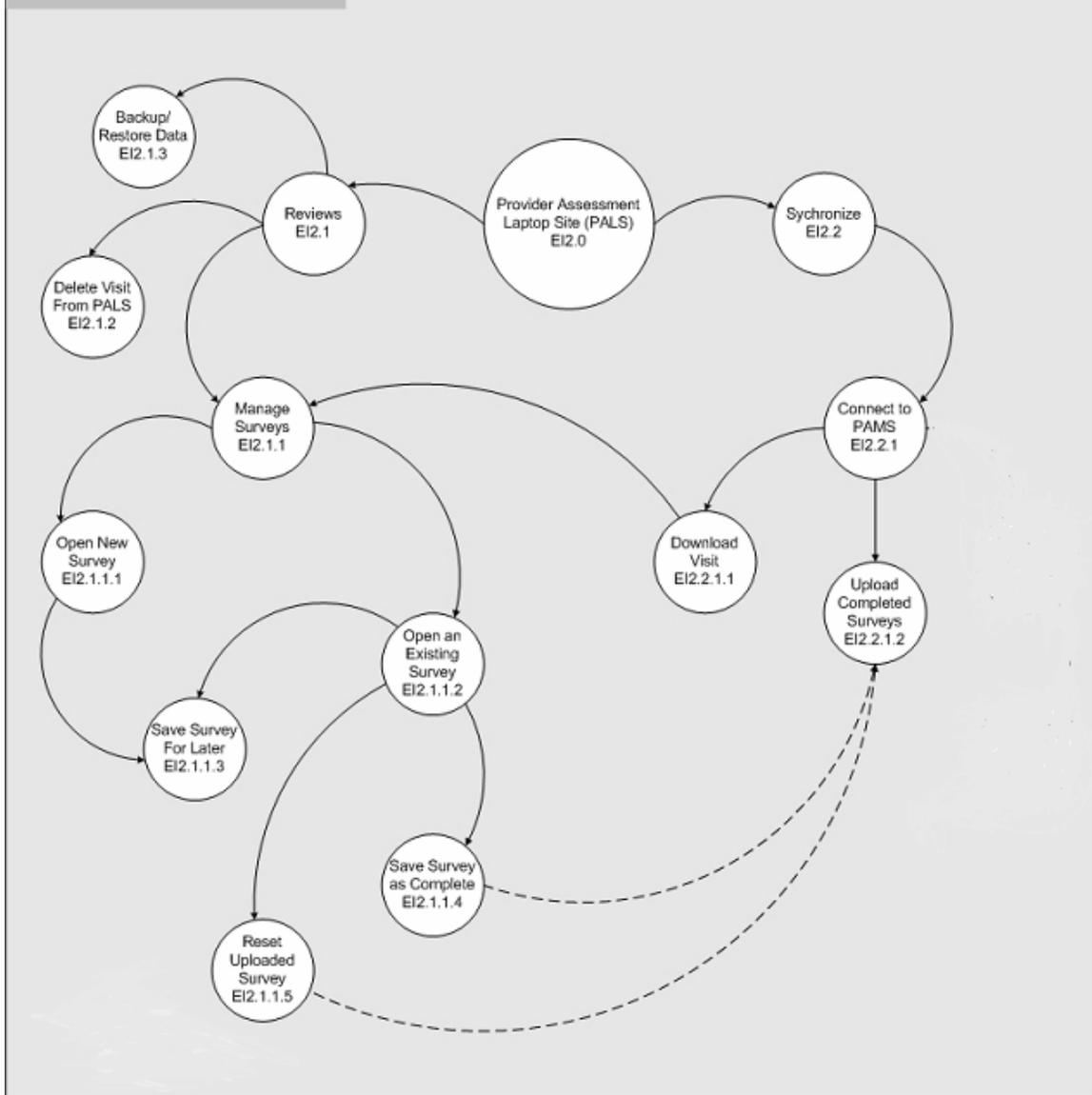


Logon for DOH/IPRO personnel is controlled using a token-based (RSA) scheme over a 128bit SSL connection.

## 1.2 Process Flow



I<sup>2</sup>PRO - EI  
Provider Assessment Laptop Site (PALS)  
Process Flow Diagram





## **2.0 PALS Functionality**

The PALS Desktop is implemented as a feature-rich, Windows-based application, providing two modes of operation.

In ‘offline’ mode, the application provides downloading of visit information, performance of surveys while disconnected from the Internet, and uploading of completed surveys.

In ‘online’ mode, the application provides scheduling of site visits, viewing/editing of uploaded surveys, and production of final reports.

In both modes, the system provides the enhancements allowed through the use of a Windows-based system, such as spell checking, improved user experience, and stability. Improved interface responsiveness is achieved while in ‘online’ mode through the use of data compression, reducing the size of the ‘data package’ when communicating with the PAMS Service Provider.

The PALS Desktop contains the following components and modules:

1. A main shell providing a consistent user interface and a framework for supporting the various application modules required by the system.
2. An encrypted and password protected Access database.
3. A ‘Downloaded Visits’ application module.
4. A ‘Surveys and Tools’ application module.
5. A ‘Data Synchronization’ application module.
6. A ‘Final Reports’ application module.
7. An ‘Administration’ application module.

These items will be further described below.

### **2.1 PALS Desktop Main Shell**

The purpose of the PALS Desktop main shell is to provide a consistent interface and framework for the user and application modules. It contains the following features:

1. The basic ‘windows’ structure of the application.
2. A ‘sidebar’ area for use while navigating in the various application modules.
3. A ‘work window’ area for use while interacting with the various application modules.
4. The communication link with the PAMS web service provider while in ‘online’ mode.
5. The menu structure required for interacting with the various application modules.

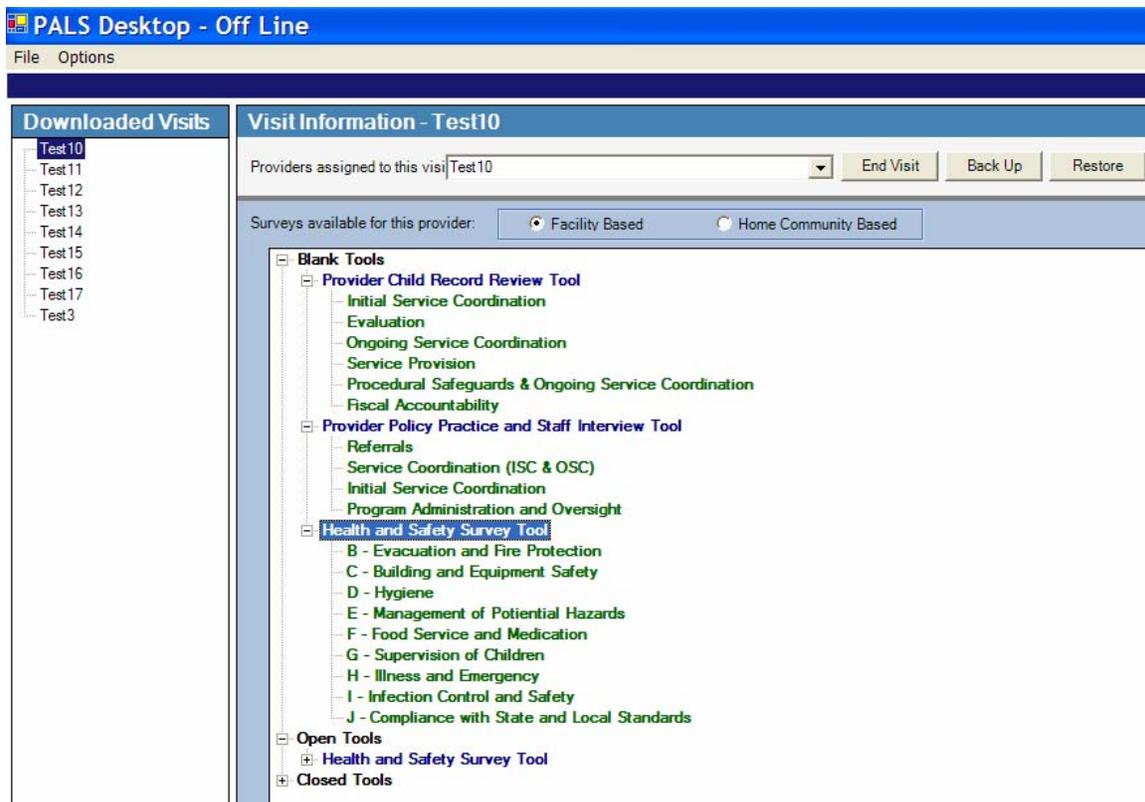
## 2.2 Access Database

All downloaded surveys and data entry work done is stored on a local database. This database is password protected to prevent updates in the native mode by the end users. All updates are done via the PALS desktop module.

## 2.3 Downloaded Visits Application Module

The Downloaded Visits application module is an ‘offline’ mode module and provides the following functionality:

1. Display of all the downloaded visits within the ‘sidebar’ area of the main shell.
2. Display of selected visit and provider information within the ‘work window’ area of the main shell, containing:
  - a. A dropdown box containing a list of providers associated with the selected visit.
  - b. A list of blank, completed, and open surveys/tools available to the selected provider.



## 2.4 Surveys and Tools Application Module

The Surveys and Tools module is an application module that is accessed from the Downloaded Surveys application module while in offline mode, and from the Uploaded



Surveys application module while in online mode. The module provides the following functionality:

1. Displays surveys while in either online or offline mode.
2. Saves a survey locally when offline.
3. Saves a survey remotely while in online mode.
4. Checks out a survey for modification when in online mode.
5. Saves a survey to be completed at a later date.
6. Disables and enables selected sections of the survey.
7. Reset a survey while in offline mode so that it may be re-uploaded.

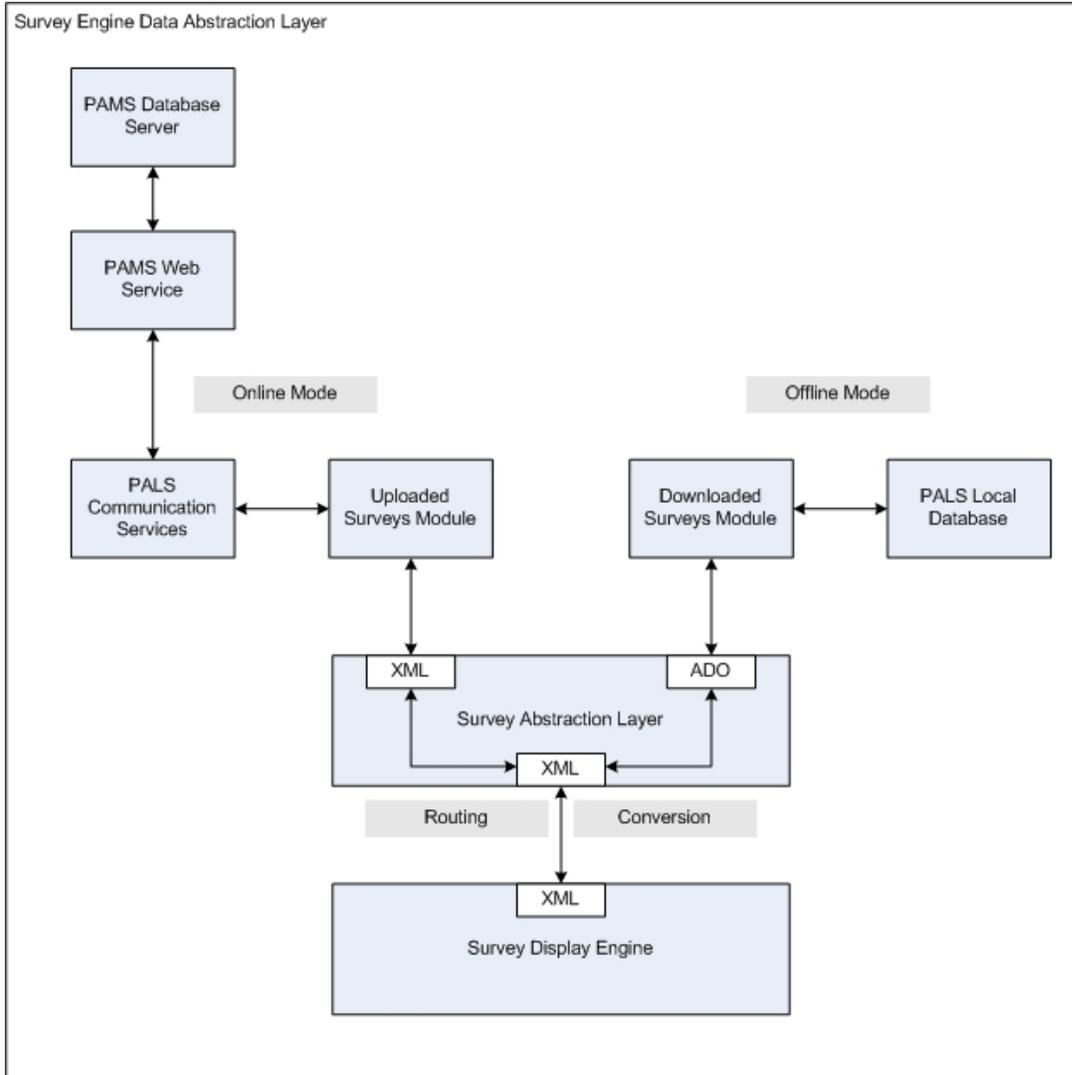
### Survey Data Abstraction Layer

In order to support access from both online and offline modes, the survey engine is abstracted from the data through the use of xml. While in offline mode, the data abstraction layer converts data from the local database to xml prior to passing the information to the survey engine. While in online mode, the data abstraction layer routes the xml from the PAMS server to the survey engine for display. On a save operation, the data abstraction layer either saves the data locally, or routes the information to the PAMS, depending on whether the PALS Desktop is in online or offline mode.

The Survey Data Abstraction Layer provides the following functions:

- Translation of local data into a standardized xml format for the survey engine while in offline mode.
- Routing of xml messages from the PAMS server to the survey engine while in online mode.

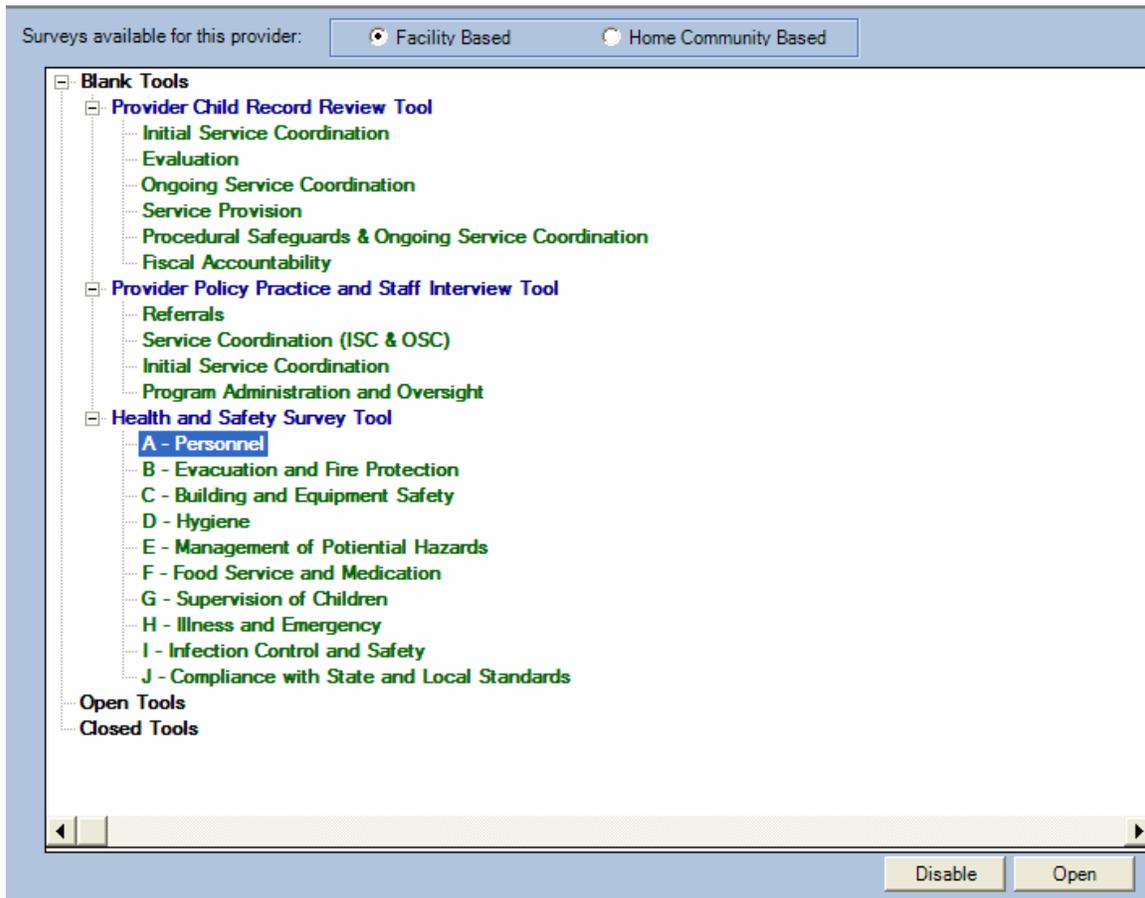
Below is a graphical representation of the Survey Data Abstraction Layer:



## Survey Display Engine

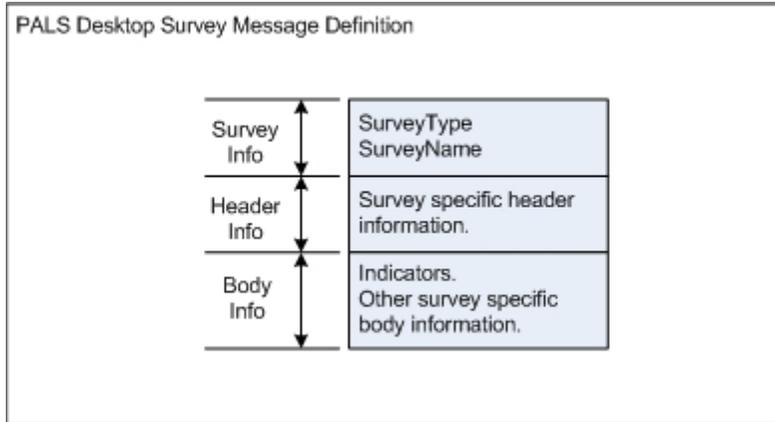
The purpose of the survey display engine is to load the appropriate survey based on the xml provided by the Survey Abstraction Layer. The survey display engine also provides the following features:

- Ability to select a child associated with a visit and provider for performance of a child record review.
- Ability to save a survey for completion at a later date.
- Ability to save a survey as complete for upload to the PAMS server.
- Ability to check out a survey for modification after it has been uploaded.
- Ability to resend a survey if an error occurred during the uploading process.
- Ability to load a Health and Safety survey based on the user selected option of “Home Based” or “Facility Based.”



## Survey XML Specification

The Survey Display Engine processes surveys based on a standardized XML message architecture. Below is a graphical representation of the survey message:



The generic structure allows the Survey Display Engine to route survey information to the specific procedures needed to display each survey type. Below is an XML definition of the above architecture:

```
<SURVEY>
  <SURVEYINFO>
    <SURVEYTYPE VALUE=' ' SUBTYPE=' ' />
    <SURVEYNAME IDVAL=' ' NAME=' ' />
  </SURVEYINFO>
  <HEADERINFO></HEADERINFO>
  <BODYINFO>
    <INDICATOR ></INDICATOR>
  </BODYINFO>
</SURVEY>
```

## Survey Display Window

Surveys are standardized to have a common look and feel. Each survey is displayed in a window, which will support a common level of functionality. Each survey has a header section, and a “body” section containing the indicators specific to the survey. The header section has a check box enabling the entire survey to be disabled. Additionally, individual indicators are also be able to be disabled. When a survey or indicator is disabled, it is not analyzed by the final report engine during calculation of the final report.

## Module Requirements

Based on the above discussion, the following requirements have been identified:

1. Construction of a data abstraction layer to allow consistent operation of the survey module while in offline and online modes.



2. Definition of an xml specification to allow data to be passed between the various survey engine components.
3. Definition of a consistent user interface between the various survey types.
4. Ability to save a survey for completion and upload to the PAMS server.
5. Ability to check out a survey after it has been uploaded so that it can be modified.
6. Ability to resend a survey if an error occurs during transmission.
7. Uploaded surveys will be read only unless checked out for modification.
8. Surveys displayed while in offline mode will be modifiable at all times, even after being saved as complete.

### Data Synchronization Application Module

The purpose of the Data Synchronization application module manages all data traffic between the PALS Desktop while in 'online' mode and the PAMS service provider. It provides the following functionality:

1. Integration with the existing RSA authentication web service.
2. Uploading and downloading of data using the existing SSL encryption.
3. Compression of data to reduce bandwidth requirements.

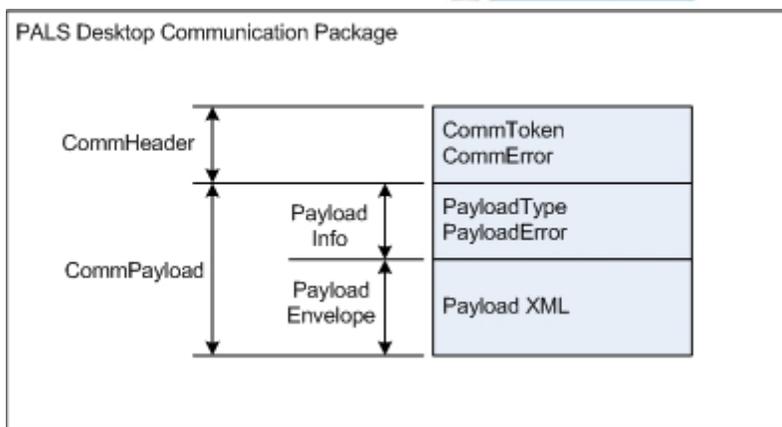
The Data Synchronization module of the PALS Desktop System is a web-service based messaging system providing the following features:

- A standardized, XML-based, message protocol for securely transmitting data between the PALS Desktop and the PAMS Service Provider while in online mode.
- The ability to download assigned visits to the PALS Desktop.
- The ability to upload completed surveys to the PAMS Service Provider.

The rest of this document will provide a general overview of the messaging system, and then discuss the above features in greater detail.

### PALS/PAMS Communication Protocol

The PALS Desktop communication protocol is a message-based protocol that is designed to be transmitted using a SOAP-based web service over a SSL encrypted communication channel. Each message is structured in a package that contains routing information for the message, as well as a security token and provision for an error message. The following is a graphical representation of the structure of a communication package:



The communication package contains the following elements:

- The **CommHeader** element: Contains global information about the message and contains the following sub-elements:
  - **CommToken**: the security token assigned to the user during the authentication process.
  - **CommError**: Used to pass error messages pertaining to the processing of the message packet.
- The **CommPayload** element: Contains the message payload and contains the following sub-elements:
  - **PayloadInfo**: Contains routing information for the message payload and the following sub-elements:
    - **PayloadType**: Routing code used to identify the application module for which the message is intended.
    - **PayloadError**: Used to pass error messages specific to the message payload.
- The **PayloadEnvelope** element: Contains the message payload stored in UTF-8 encoded format.

The following is the XML representation of the communication package:

```
<?xml version="1.0" encoding="utf-8" ?>
<PALSCOMMS>
  <COMMHEADER>
    <COMMTOKEN VALUE="" />
    <COMMERROR ERRORID="" ERRORMESSAGE="" />
  </COMMHEADER>
  <COMMPAYLOAD>
    <PAYLOADINFO>
      <PAYLOADTYPE APPTYPE="" MESSAGE="" />
    </PAYLOADINFO>
  </COMMPAYLOAD>
</PALSCOMMS>
```



```
<PAYLOADERROR ERRORID="" ERRORMESSAGE="" />
</PAYLOADINFO>
<PAYLOADENVELOPE></PAYLOADENVELOPE>
</COMMPAYLOAD>
</PALSCOMMS>
```

### User Authentication

When the user logs on in “online” mode, they are authenticated by using the existing RSA authentication service provided with the original PAMS system. The Authentication service accepts a user name, password, and RSA PIN number. The Service returns a GUID-based authentication token which is used to identify the user for the rest of the session.

### Message Authentication

Whenever a message is passed between the PALS Desktop and the PAMS Service Provider, the user’s authentication token is passed with the message. When the message is received at either end, the security token embedded in the message’s CommToken element is compared with the authentication token passed with the message. If the tokens are the same, then the message is authenticated as having originated from the user. If the tokens do not match, the message is rejected, and an error message is returned to the user.

### Message Encryption

The PAMS/PALS message traffic is compressed using the ZIP compression utility, and is encrypted using SSL encryption.

### Visit/Survey Synchronization

The PALS Desktop system is designed to allow a user to download scheduled visit information to a laptop, perform various surveys for the visit while offline, then upload completed surveys to the PAMS for storage and generation of a final report describing the results of the site review.

### Visit Download

When users desire to download visit information, they enter “synchronization” mode by going to the “Download Visits” section of the “Synchronize” module and clicking the “Get Visit List” button. This displays the logon screen prompting the user to enter their user name/password/RSA PIN combination. Once authenticated, the following process occurs:

1. The PALS Desktop sends a request for visits available for download to the PAMS, via the previously described messaging system.
2. The PAMS returns the list of available visits to the PALS. The list of visits are all open visits assigned to the logged-in user.
3. The user selects the visits to be downloaded from the list, and clicks the “Download Selected Visits” button.



4. The PALS sends a message to the PAMS containing the list of desired visits.
5. The PAMS returns visit and child information for the requested visits back to the PALS.
6. The PALS either adds a new record if the visit does not already exist, or updates the visit and child information if the visit already exists on the system.
7. Surveys that exist on the system for a visit previously downloaded are not modified in any way.

### Survey Upload

When users desire to upload completed surveys to the PAMS, they go to the “Upload Surveys” section of the “Synchronize” module. This displays a list of surveys available for upload, ordered by visit, provider, tool, and section. Only surveys that have been saved as complete and not previously uploaded are displayed on the list. After selecting the surveys to be uploaded, the user clicks the “Upload Selected Surveys” button to send the survey information to the PAMS by the following process:

1. The system enters “Synchronize” mode by displaying the user login screen and querying the user for their user name/password/RSA PIN combination.
2. Once the user has been authenticated, the PALS generates a CommPayload message containing the survey information for the surveys to be uploaded.
3. The PALS sends the message to the PAMS, which processes and stores the uploaded surveys.
4. Surveys that already exist on the system are not overwritten.
5. When the processing is complete, the PAMS returns a message to the PALS containing a list of successfully processed surveys.
6. A list of surveys not successfully processed are also be returned in the message, along with the reason the survey was not processed.
7. The PALS sets the state of all successfully uploaded surveys to “Uploaded.”
8. A message is displayed to the user describing the results of the upload operation, including identification of surveys not successfully uploaded.

### Module Requirements

Based on the above discussion, the following requirements have been identified:

1. Creation of a message processing protocol.
2. Creation of a SOAP-based web service to transmit messages between the PAMS and PALS Desktop.
3. The web service using a SSL based encryption channel.
4. The existing RSA authentication service is utilized for user authentication.
5. PAMS provides a list of open visits assigned to the logged in user for download to the PALS Desktop.
6. The PALS Desktop provides the user with the ability to select specific visits for download.



7. The PAMS provides the ability to download selected visit information.
8. The downloaded visit information is added to the local database.
9. For previously downloaded visits, the visit information is updated with the downloaded data.
10. Surveys open/completed for existing visits are not modified by the download process.
11. The PALS Desktop provides a user with the ability to upload completed visits to the PAMS server.
12. The PAMS processes uploaded surveys and stores them in the remote database.
13. Surveys that already exist are not overwritten.
14. The PAMS returns processing information to the PALS desktop for display to the user.
15. The PALS Desktop changes the status of uploaded surveys from “Complete” to “Uploaded.”
16. The PALS Desktop provides the results of the upload operation to the user.

### **2.5.1 Uploaded Surveys Application Module**

The Uploaded Surveys module is an application module add-in for the PALS Desktop that is displayed when in online mode, and allows the user to view and modify surveys that have been uploaded to the PAMS Server. The Uploaded Surveys module provides the following functionality:

- Ability to search for a specific provider by State ID or partial name search.
- Ability to display the results of the provider search in an easily selectable format.
- Display of a list of uploaded surveys based on the specific visit and provider selected.
- Integration with the Surveys and Tools module to display a selected survey.

#### **Provider Search**

In order to allow a user to quickly locate uploaded surveys, the module allows a user to search for a provider by using either the providers State ID, or performance of a partial name search. The search results will be displayed on the application sidebar, ordered by provider and visit.

#### **Uploaded Surveys**

When a user selects a visit from the sidebar, the application requests a list of uploaded surveys from the PAMS Server. The PAMS returns the list of surveys, which is displayed in the module’s application window. The surveys are ordered based on tool type, section, and survey.

#### **Survey Display**

When a survey is selected, a request is sent to the PAMS Server for the survey information. When the information is returned, the application module passes the message to the Survey and Tools module for display.



## Module Requirements

Based on the above discussion, the following requirements have been identified:

1. Provide the ability to search for a specific provider based on State ID or partial name.
2. Providers meeting the search requirements are displayed based on the provider, and visits that the provider has been assigned to.
3. When a survey has been selected, the module displays a list of surveys that have been uploaded for the visit and provider.
4. The system allows blank surveys to be completed for the provider while online.
5. When a survey is selected, it is displayed by the Surveys and Tools module as shown below.

PALS Desktop - On Line - <https://ei.ipro.org/PALSComms/SecureChannels.aspx> On Line

File Options

## Uploaded Surveys

State ID:

Provider Name:

- TestC
  - TestC - Closed 11/6/2005
  - TestC2 - Open 11/14/2005

Schedules

Surveys

Reports

## TestC2 - Open 11/14/2005

Surveys available for this provider:  Facility Based  Home Community Based

- Blank Tools
- Provider Child Record Review Tool
  - Initial Service Coordination
  - Evaluation
  - Ongoing Service Coordination
  - Service Provision
  - Procedural Safeguards & Ongoing Service Coordination
  - Fiscal Accountability
- Provider Policy Practice and Staff Interview Tool
  - Referrals
  - Initial Service Coordination
  - Program Administration and Oversight
- Health and Safety Survey Tool
  - B - Evacuation and Fire Protection
  - C - Building and Equipment Safety
  - D - Hygiene
  - E - Management of Potential Hazards
  - F - Food Service and Medication
  - G - Supervision of Children
  - H - Illness and Emergency
  - I - Infection Control and Safety
  - J - Compliance with State and Local Standards
- Open Tools
- Closed Tools

Start | PALS Desktop - On Lin... | System documentation-F... | Document1 - Microsoft ... | Type to search | 11:54 AM



## 2.5.2 Download Surveys Application Module

The Downloaded Visits module provides a list of downloaded visits and providers that can be selected for performance of surveys. The list of downloaded visits is displayed in a sidebar-based treeview control. When a visit is selected on the treeview, a combo-box is populated with the list of providers assigned to the visit. When a provider is selected from the list, a list of available surveys is displayed that can be opened and modified by the user.

### Survey Information

When the user has selected a visit and provider, a list of surveys is displayed by the system. The list is displayed in a treeview control and is ordered by survey status, survey tool, tool section, and survey. When the user double-clicks on a survey, the survey is opened for performance by the user. Selection of “Home” or “Facility” based is used by the system to properly display the sections and indicators to be displayed by the Health and Safety survey.

### Module Requirements

Based on the above discussion, the following requirements have been identified:

1. The PALS Desktop displays a selectable list of downloaded visits.
2. The PALS Desktop displays a selectable list of providers associated with a selected visit.
3. When a provider is selected, a list of available surveys is displayed.
4. Selection of “Home Based” or “Facility Based” modifies the sections and indicators displayed by the Health and Safety survey.
5. The list of surveys is ordered by survey status, survey tool, survey section, and survey.
6. Double-clicking on a survey opens it for completion.
7. The PALS Desktop provides the user with the ability to delete a visit from the local database.

### Downloaded Visits

- Test10
- Test11
- Test12
- Test13
- Test14
- Test15
- Test16
- Test17
- Test3

### Visit Information - Test10

Providers assigned to this visit: Test10 End Visit Back Up Restore

Surveys available for this provider:  Facility Based  Home Community Based

- Blank Tools
  - Provider Child Record Review Tool
  - Provider Policy Practice and Staff Interview Tool
    - Referrals
      - Service Coordination (ISC & OSC)
      - Initial Service Coordination
      - Program Administration and Oversight
  - Health and Safety Survey Tool
    - B - Evacuation and Fire Protection
    - C - Building and Equipment Safety
    - D - Hygiene
    - E - Management of Potential Hazards
    - F - Food Service and Medication
    - G - Supervision of Children
    - H - Illness and Emergency
    - I - Infection Control and Safety
    - J - Compliance with State and Local Standards
- Open Tools
  - Health and Safety Survey Tool
    - A - Personnel
- Closed Tools

Disable Open



## **2.6 Final Reports Application Module**

The Final Reports application module is an ‘online’ mode module and performs the features currently encapsulated by the PAMS ‘Final Reports’ section. It provides the following:

### **Provider Search**

In order to allow a user to quickly locate final reports, the module allows a user to search for a provider by using either the provider’s State ID, or performance of a partial name search. The search result is displayed on the application sidebar, ordered by provider and visit.

### **Report Calculation and Modification**

When the surveys required for a visit have been uploaded, the user is able to calculate a final report, based on the uploaded survey results and the kind of visit performed (comprehensive or focused). The results of the report calculation are displayed in a window which allows modification of the final report text and selection of whether the indicator is a regulation violation or needs improvement. Open final reports is displayed as read only, unless checked out for modification. When a report is checked out, the system records the ID of the person checking out the report, the time checked out, and the time checked in. When a report is checked out, no other person is able to modify the final report.

### **Report Versioning**

Users have the ability to version the final reports. When a final report is closed, it is rendered as read only and a time stamp is assigned to the report. When a closed report is opened, a new version of the final report is created, and assigned a new version number.

### **Report Printing**

The system provides the ability to print the final report for submission to Department of Health. The following templates support the printed final reports:

- Provider comprehensive review.
- Provider focused review.

The review type selected at the point of calculation determines the final report format.

### **Module Requirements**

Based on the above discussion, the following requirements have been identified:

1. Provides the ability to search for a specific provider based on State ID or partial name.



2. Providers meeting the search requirements are displayed based on the provider, and visits that the provider has been assigned to.
3. When a provider has been selected, the module displays a list of final reports that have been calculated for the visit and provider.
4. Provides the ability to calculate a final report based on the surveys uploaded to the PAMS Server, provider type, and visit type.
5. Provides the ability to lock a report for modification so that only one person may modify the report at a time.
6. Ability to version the final reports.
7. Ability to generate a coversheet for the final report based on provider type and visit type.
8. Ability to print the final report.

## **2.7 Administration Application Module**

The Administration module is an application module add-in that is displayed while in offline mode, and allows the user to perform various administrative tasks associated with the PALS Desktop. The Administration module provides the following feature:

- Ability to configure the PALS Desktop communication services.

### **Communication Service Configuration**

In order for the PALS Desktop to communicate with the PAMS Server, it must be properly configured to do so. To allow this, the Administration module provides the following configuration settings:

- URL to the communication service.
- URL to the RSA authentication service.
- URL to a proxy server, if required.
- Proxy server log on credentials, if required.

### **Module Requirements**

Based on the above discussion, the following module requirements have been identified:

1. Ability to configure the URL to the PAMS communication service.
2. Ability to configure the URL to the PAMS RSA authentication service.
3. Ability to configure operation with a proxy server.

## **3.0 PAMS Web Services Provider**

The PAMS Web Services Module provides the following services:

1. RSA Authentication of online users.



2. Downloading of scheduled visits.
3. Uploading of completed surveys.
4. Other functions necessary to support PALS Desktop in 'online' mode.

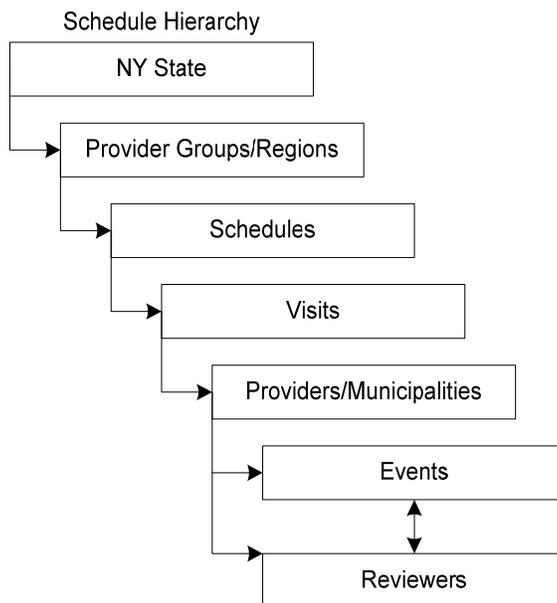
#### 4.0 Scheduler Module

The Scheduler module provides the following functions:

1. Segregation of Provider/Municipalities by group for scheduling purposes.
2. Creation, approval, and archiving of schedules by group.
3. Assignment of multiple Providers\Municipalities to a specific visit.
4. Assignment of multiple events (predefined and custom) to a specific visit.
5. Assignment of multiple staff to a specific visit.
6. Assignment of multiple children to a specific provider.
7. Tracking of events by assigned staff.
8. Limiting access and modification of schedules based on a user's level of access.

#### Schedule Hierarchy

The following diagram displays the Schedule Hierarchy



The Schedule Hierarchy works as follows:

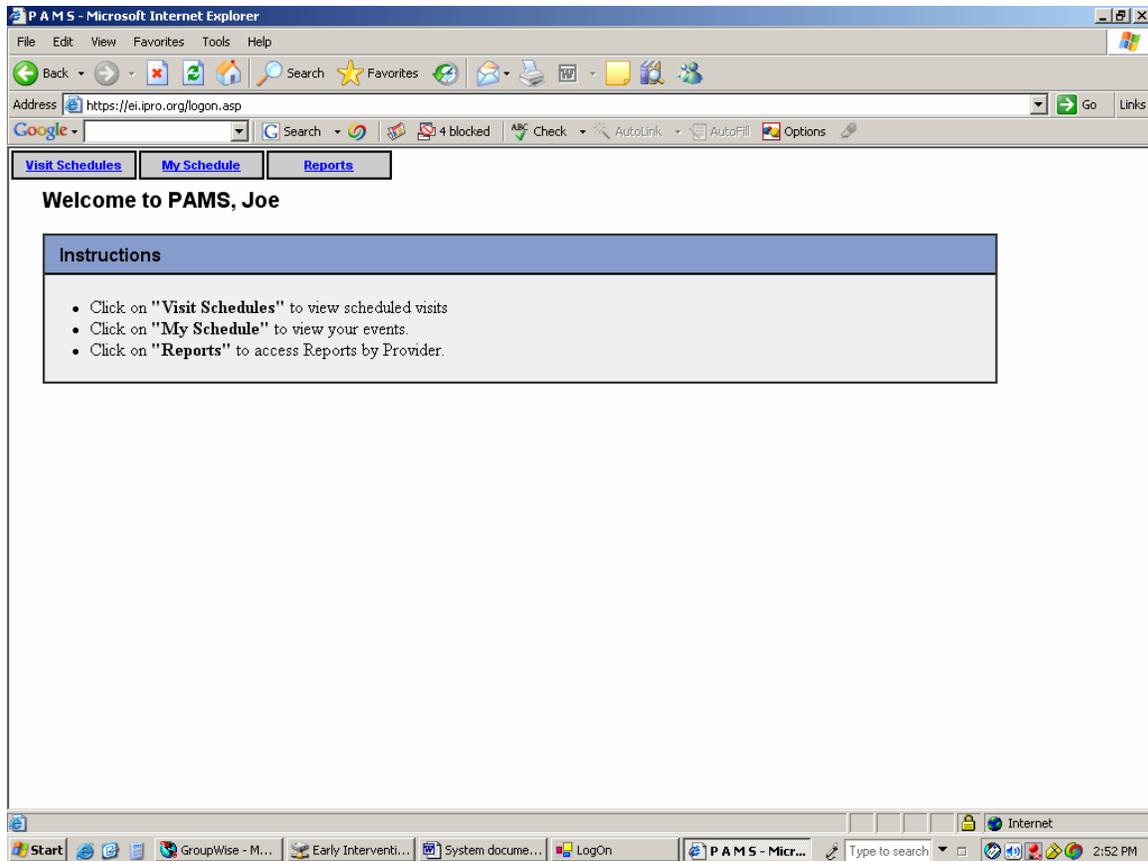
1. NY State is divided into one or more pre-defined regions/groups, to which providers and municipalities are assigned.
2. Each group may contain one or more schedules.
3. Each schedule may contain one or more visits.
4. Each visit may contain one or more providers.



5. Each visit may have one or more staff assigned to it.
6. Each provider may have one or more events assigned to it.
7. Each provider may have one or more children assigned to it.
8. Events and reviewers are associated with one another so that each reviewer knows the events assigned to them.

The first screen a user sees when attempting to access the Scheduler is the logon screen. Users enter their user ID, password, and RSA token number with their PIN number to log on to the system. Once the system successfully authenticates the user, it redirects the user to the appropriate main page and displays only those items the user is allowed to access, based on their user rights.

After a successful logon, the IPRO Staff and DOH Personnel see the following screen:



The Staff main page consists of instructions and provides links to the following areas:

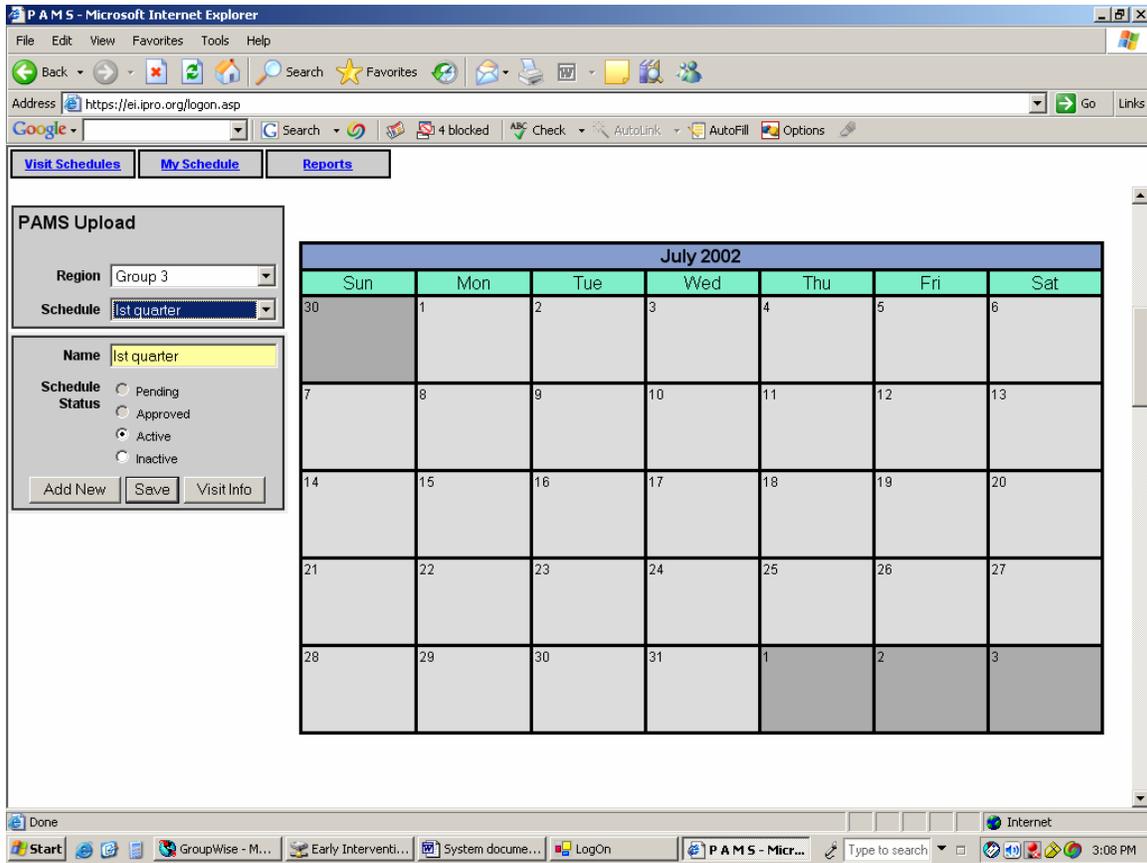
1. Visit Schedules – Area where schedules are maintained.



2. My Schedule – Area where users can view events assigned to them. (Health Department staff is not able to use this function or see this link.)
3. Reports – Area where users can display the various assessment tools, surveys, and reports.

### Create/Select Schedule Screen

Clicking on **Visit Schedules** presents the user with the following screen:



From this screen, authorized users can perform the following:

1. Create a new schedule.
2. View an existing schedule.
3. Change the status of a schedule (Pending, Approved, Active, or Inactive).

Schedule status is defined as follows:



1. Pending – Any incomplete schedule or schedule awaiting Approval. All newly created schedules default to this type.
2. Approved – Any schedule that has been approved. Once a schedule is approved, the system assumes that it is always approved. (Individual events can be added to supplement schedules.)
3. Active – Any approved schedule that is currently being used. Schedules must be made active before PALS can download them.
4. Inactive – Any approved schedule that is no longer being used. Once a schedule is made inactive, it is no longer available for downloading to PALS.

Scheduled visits appear on the calendar portion of the screen. Clicking on the name of the visit takes the user to the **Select Provider** screen. The user may also navigate to the **Select Provider** screen by clicking the **Visit Info** button. The calendar portion of the screen spans one or more months, based on the dates of scheduled visits.

## Select Provider

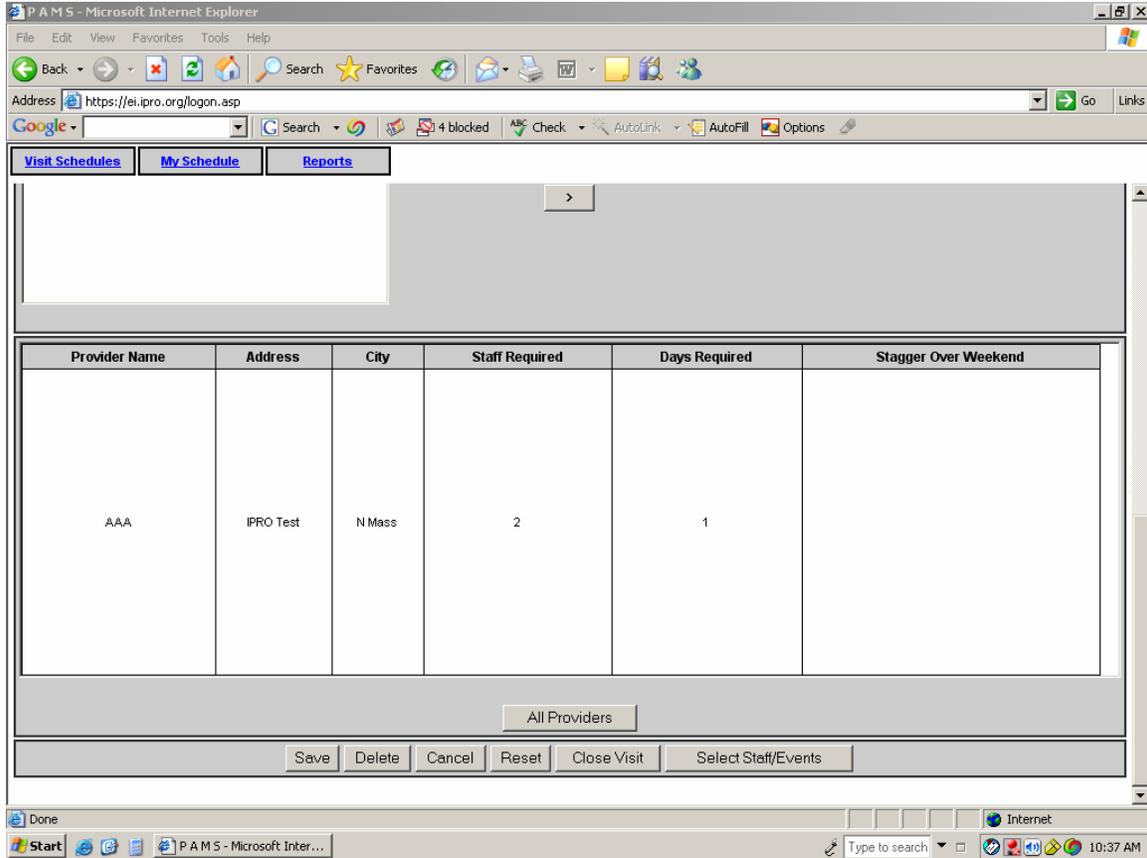
The Select Provider screen is displayed as follows:

From this screen, the user can perform the following:

1. Create a new visit.
2. Select and modify an existing visit.
3. Assign one or more providers/municipalities to the visit.

Providers are grouped into two lists, defined as follows:

1. Providers for Assessment – Providers for whom a normal visit is to be scheduled.
2. Providers for Review – Providers for whom a visit is to be scheduled.

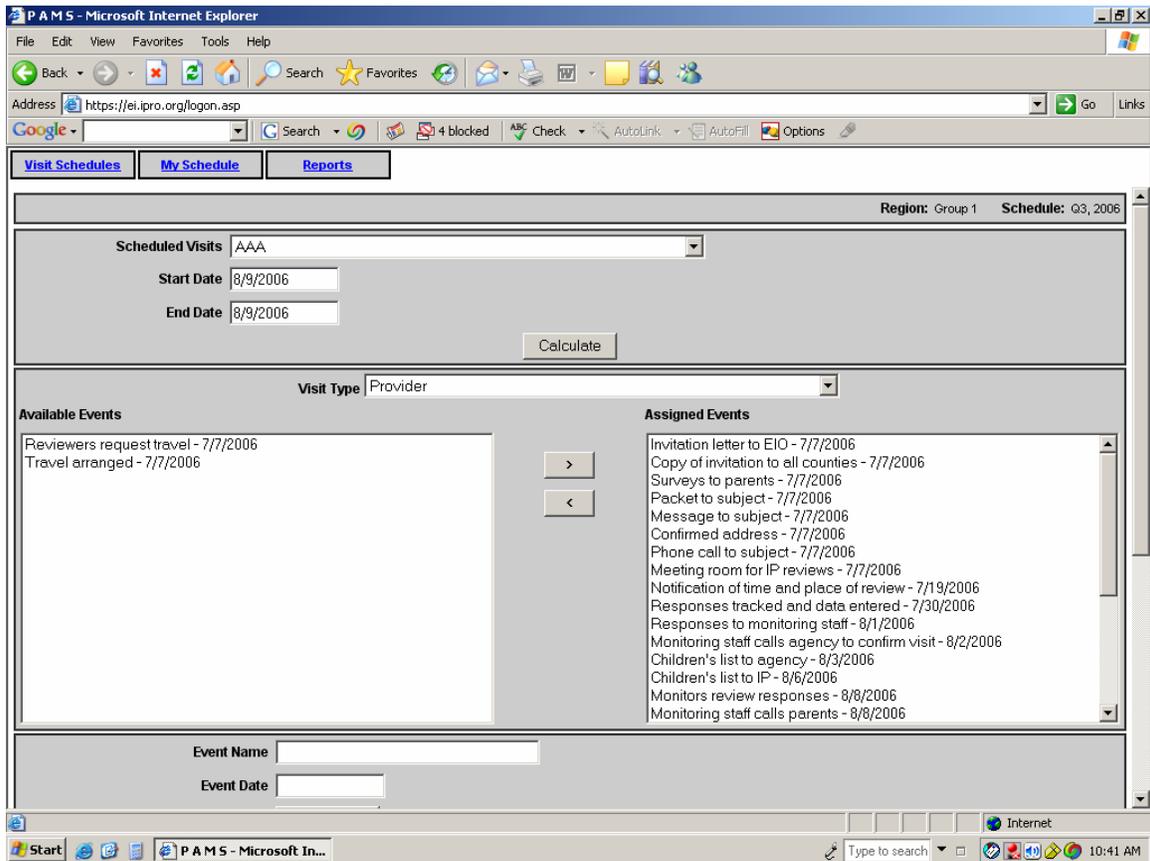


Information about selected providers is displayed at the bottom of the screen. Users are able to toggle between providers selected for the current visit, and all providers selected for the current schedule. The following buttons are located at the bottom of the screen:

1. **Save:** Saves the current contents of the screen.
2. **Delete:** Deletes the currently selected visit from the schedule.
3. **Cancel:** Returns the user to the previous page without saving the contents.
4. **Reset:** Returns the page to its last saved state.
5. **Close Visit:** Closes the visit. A visit must be closed before the provider can be rescheduled.
6. **Select Staff/Events:** Takes the user to the Select Staff screen.

## Select Staff

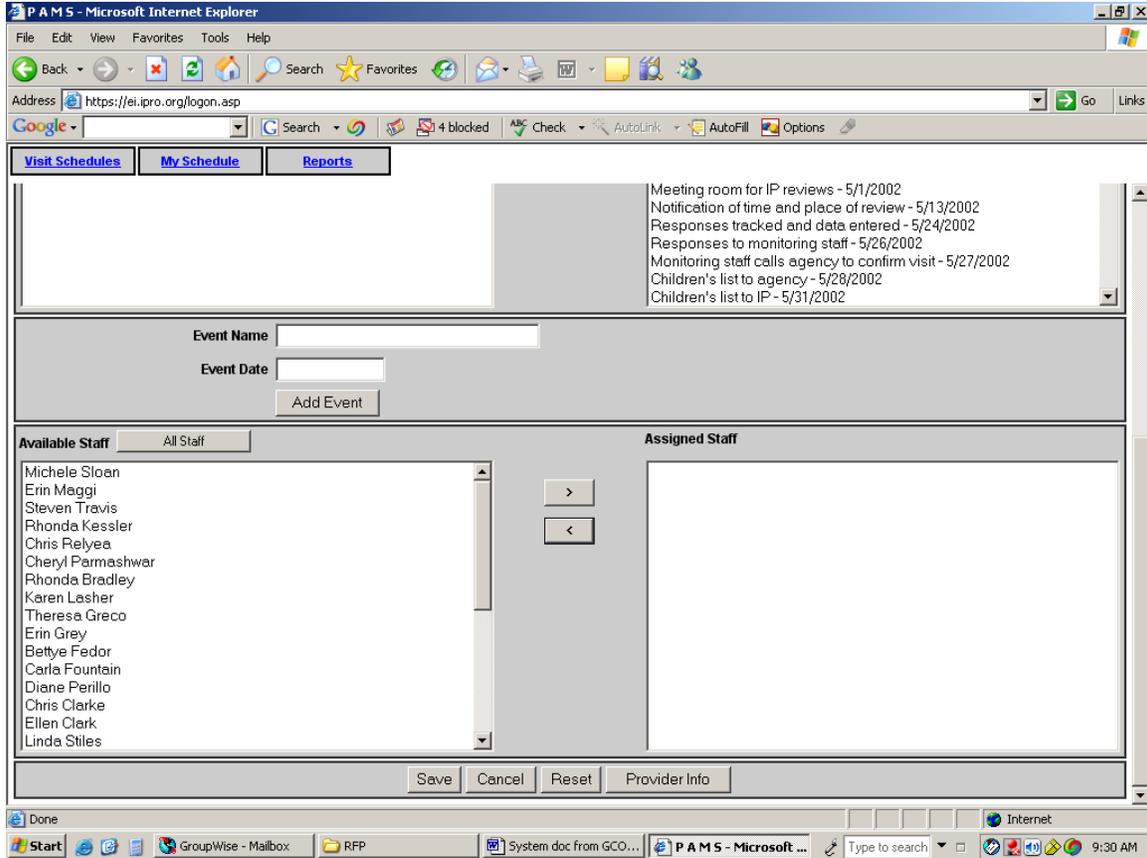
The Select Staff screen is displayed below:



From this screen, the user can perform the following:

1. Select a visit type to specify the default events for a visit.
2. Add and remove events from the event list.
3. Add a custom event to the event list.
4. Assign staff to the visit.

Clicking **Calculate** regenerates the event list based on the **Start Date** and **Visit Type**, and generates a list of staff not assigned to another visit on that date.



Users are able to toggle between Available staff and All Staff. Staff may be moved between the “Available Staff” and “Assigned Staff” list boxes by selecting them and using the provided “<” and “>” buttons. The following buttons are located at the bottom of the screen:

1. **Save:** Saves the current screen contents.
2. **Cancel:** Returns the user to the previous screen without saving the contents.
3. **Reset:** Resets the screen to its last saved state.
4. **Provider Info:** Takes the user to the “Provider Information” screen.



## Provider Information

The Provider Information page is displayed below:

The screenshot shows a web browser window titled "PAMS - Microsoft Internet Explorer". The address bar displays "https://ei.ipro.org/logon.asp". The page has a navigation menu with "Visit Schedules", "My Schedule", and "Reports". The main content area is titled "Region: Group 1 Schedule: Q3, 2006 Visit: AAA".

The "Provider Information" form includes the following fields:

- Provider: AAA
- Priority: Level 5
- County: Nassau
- Phone: [Empty]
- Street 1: IPRO Test
- Fax: [Empty]
- Street 2: [Empty]
- Point of contact: [Empty]
- City: N Mass
- State: NY
- Zip: 11111
- Initials: [Empty]
- Date of Birth: [Empty]

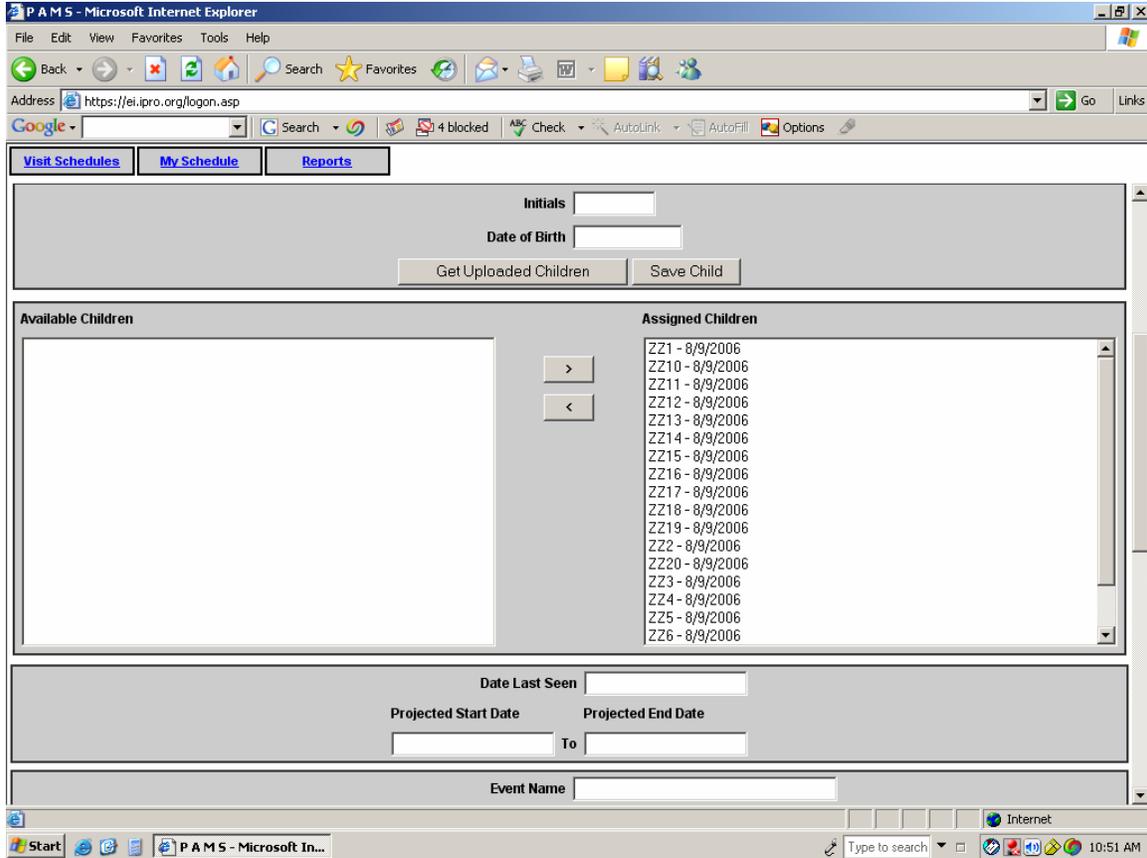
Buttons: "Get Uploaded Children", "Save Child".

Below the form are two sections:

- Available Children:** [Empty list]
- Assigned Children:** ZZ1 - 8/9/2006, ZZ10 - 8/9/2006, ZZ11 - 8/9/2006, ZZ12 - 8/9/2006, ZZ13 - 8/9/2006

From this screen, the user is able to perform the following:

1. Change provider information with regards to the visit.
2. Assign child records to be reviewed during the visit.
3. Modify the event list for the specific provider.
4. View the events.



By default, the system will generate twenty blank children, named "ZZ1" to "ZZ20". To edit the name or date of birth for a default or other child, the child is selected from the appropriate list. The child's information will be displayed. The desired change is made and saved by clicking on the **Save Child** button. Children may be moved between the "Available Children" and "Assigned Children" list boxes by using the ">" and "<" buttons. The Department may also choose to provide a list of provider specific children which can be retrieved from the database that would be displayed in the "Available Children" list box. Additional children are added by entering the initials and date of birth in the provided text boxes and clicking on **Save Child**. Child information is changed by selecting the desired child, modifying the initials or date of birth, and clicking on **Save Child**.



Clicking on **Provider Info** will take the user to the main “Provider Information” screen, where the user can change the default provider information.

The screenshot shows a Microsoft Internet Explorer browser window titled "PAMS - Microsoft Internet Explorer". The address bar shows "https://ei.ipro.org/login.asp". The browser's navigation bar includes "Back", "Forward", "Home", "Search", "Favorites", "4 blocked", "Check", "AutoLink", "AutoFill", and "Options". The main content area displays a form with the following fields and values:

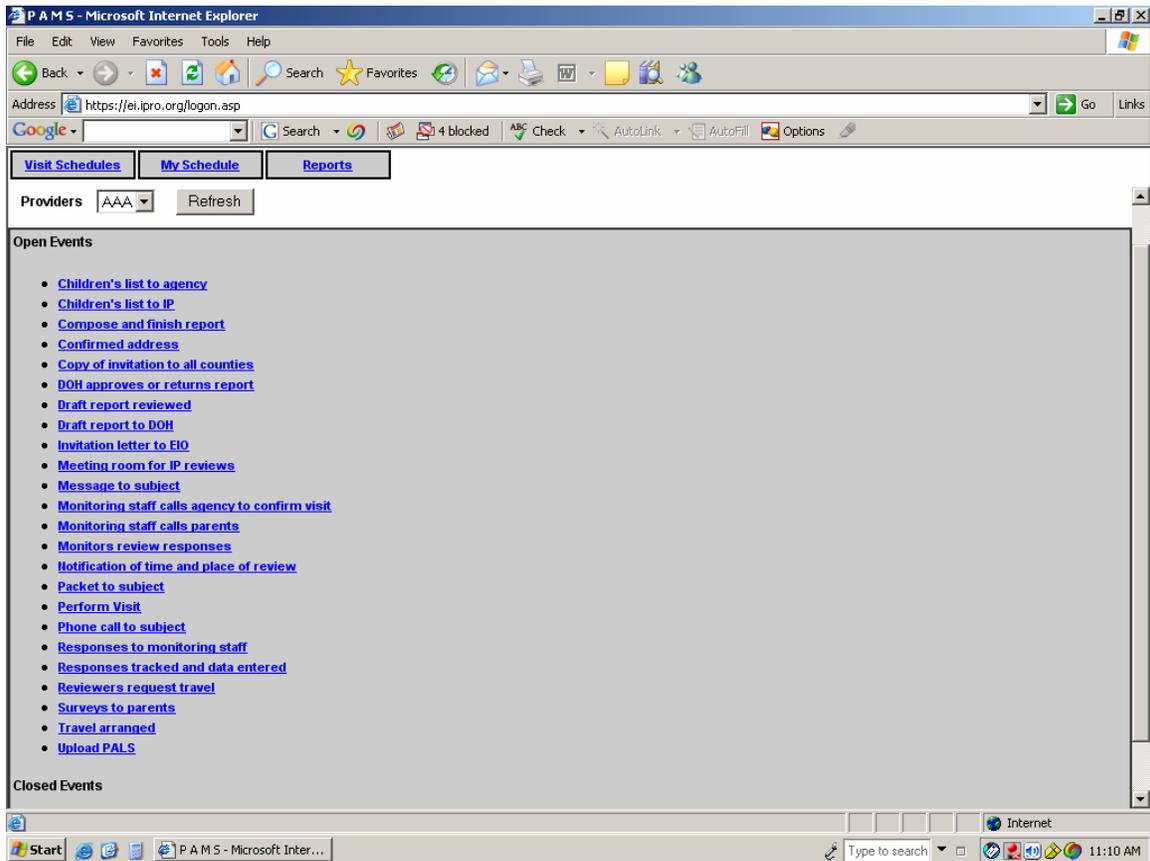
|                |           |                 |         |
|----------------|-----------|-----------------|---------|
| Type:          | Provider  | Priority:       | Level 1 |
| Region ID:     | Group 1   | Last Seen:      |         |
| POC FNAME:     |           |                 |         |
| POC LNAME:     |           |                 |         |
| Office Phone:  |           | Office Fax:     |         |
| Street 1:      | IPRO Test | Street 2:       |         |
| City:          | N Mass    | State:          | NY      |
| County:        | Nassau    | Zip:            | 11111   |
| Days Required: | 1         | Staff Required: | 1       |

At the bottom of the form, there are "Save", "Cancel", and "Reset" buttons. The browser's status bar at the bottom shows "Done", "Start", "PAMS - Microsoft In...", "Type to search", and "Internet" with a clock showing "11:02 AM".

Clicking on **View Events** takes the user to the View Provider Events screen.

### View Provider Events

The View Provider Events screen is displayed below.

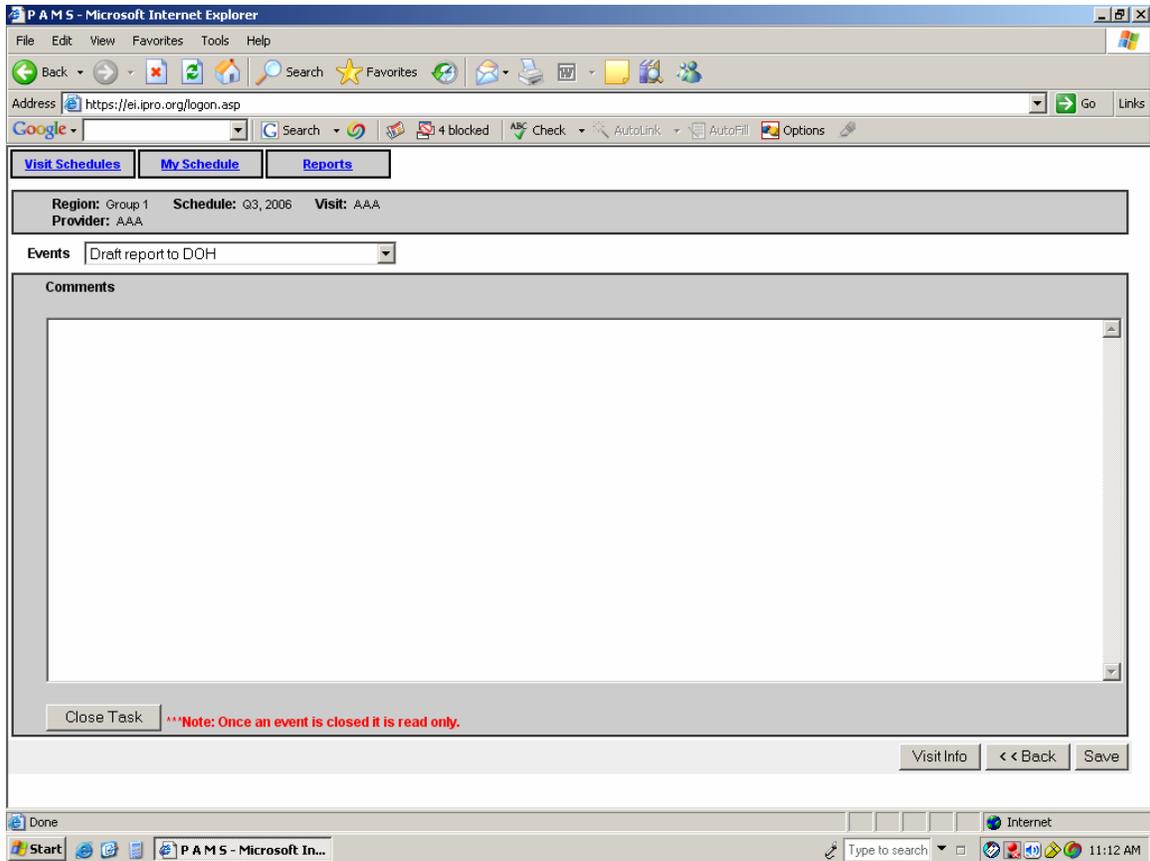


This screen allows the user to view the status of all events with respect to a specific provider encounter. Events which are still pending are displayed in the **Open** list. Events that have been completed are displayed in the **Closed** list. A dropdown list at the top of the screen allows the user to cycle through the providers assigned to a specific visit. Clicking on an event displays the **Event Information** screen.



## Event Information Screen

The Event Information screen is displayed below:



The Event Information screen allows the user to save comments about a specific event. Clicking **Save** saves the comments without closing the event. Clicking **Close Event** saves the comments and closes the event.



## My Schedule

The purpose of the **My Schedule** section is to allow individual IPRO staff to track and perform events associated with scheduled visits. The My Schedule main page is displayed below:

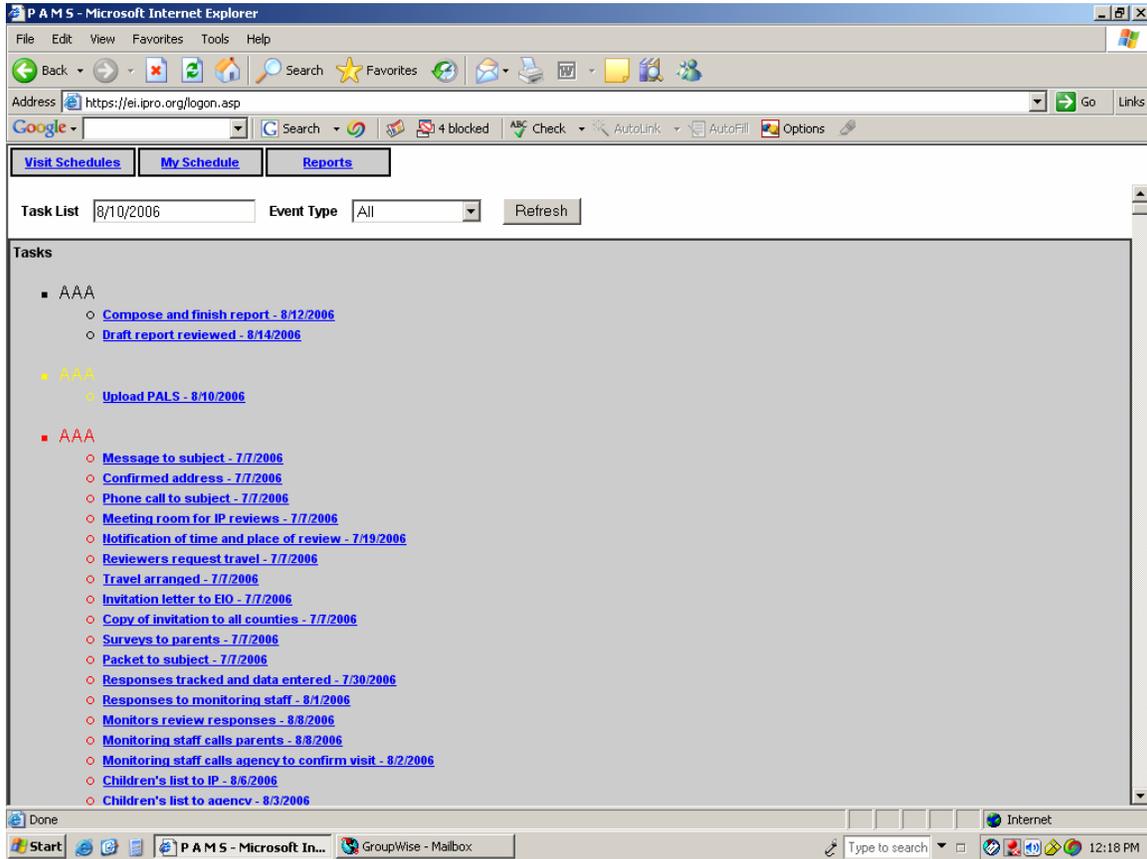
5

On entrance, the page defaults to the currently logged in user. However, authorized users can select other calendars by use of a pull down. By cycling through the months, the user sees “Events Scheduled” for days on which events are scheduled. Clicking on any of the links displays the **Daily Events** screen.

## Daily Events



The Daily Events screen is displayed below:

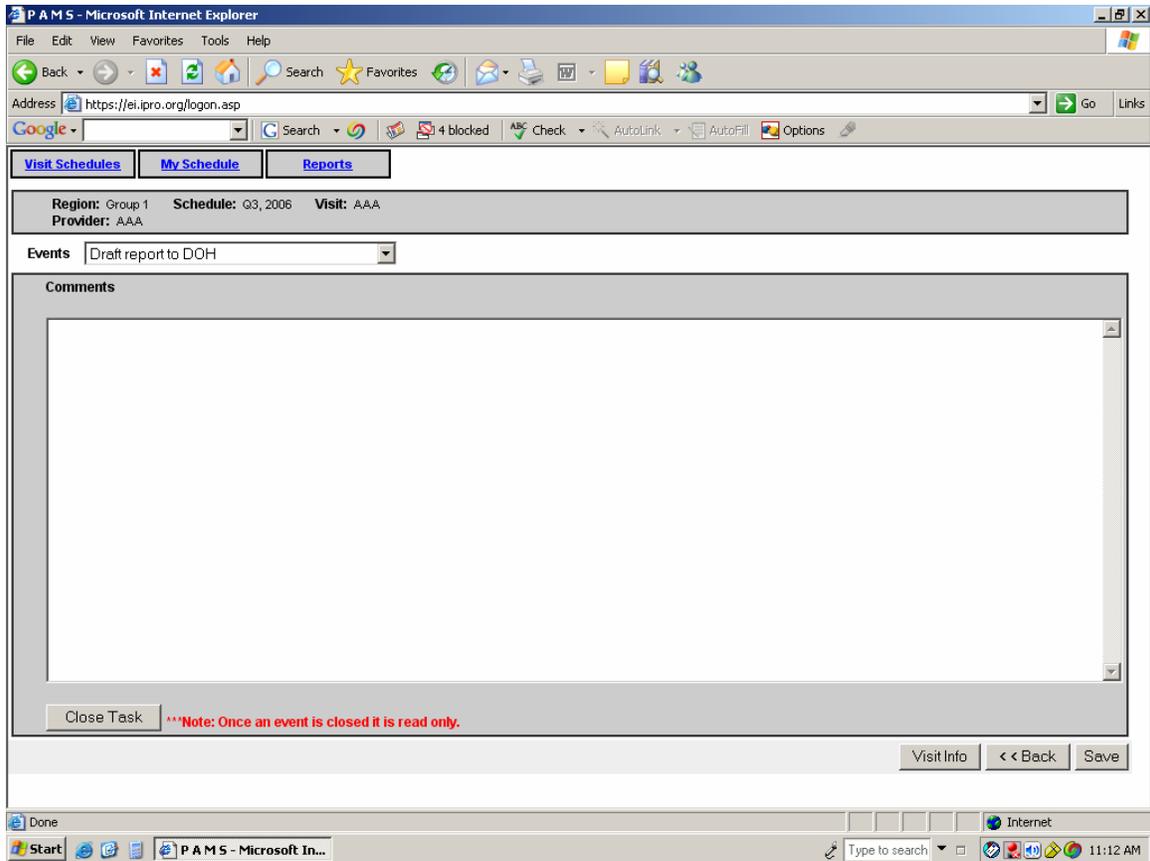


On this screen, the user sees events that are scheduled for that day. Events that are between their Notice Date and their Due Date are signified by a black bullet. Events that are between their Due Date and their NLT Date have a yellow bullet. Events that are past their NLT date have a red bullet. Users are also able to filter events by date and Event Type. Clicking on any of the events will display the **Event Information** screen for that event.



## Event Information

The Event Information screen is displayed below.



From this screen, the user is able to enter and save comments about the event. Clicking **Save** saves the event. Clicking **Close Event** will save and close the event. Once an event is closed, it will become read only.



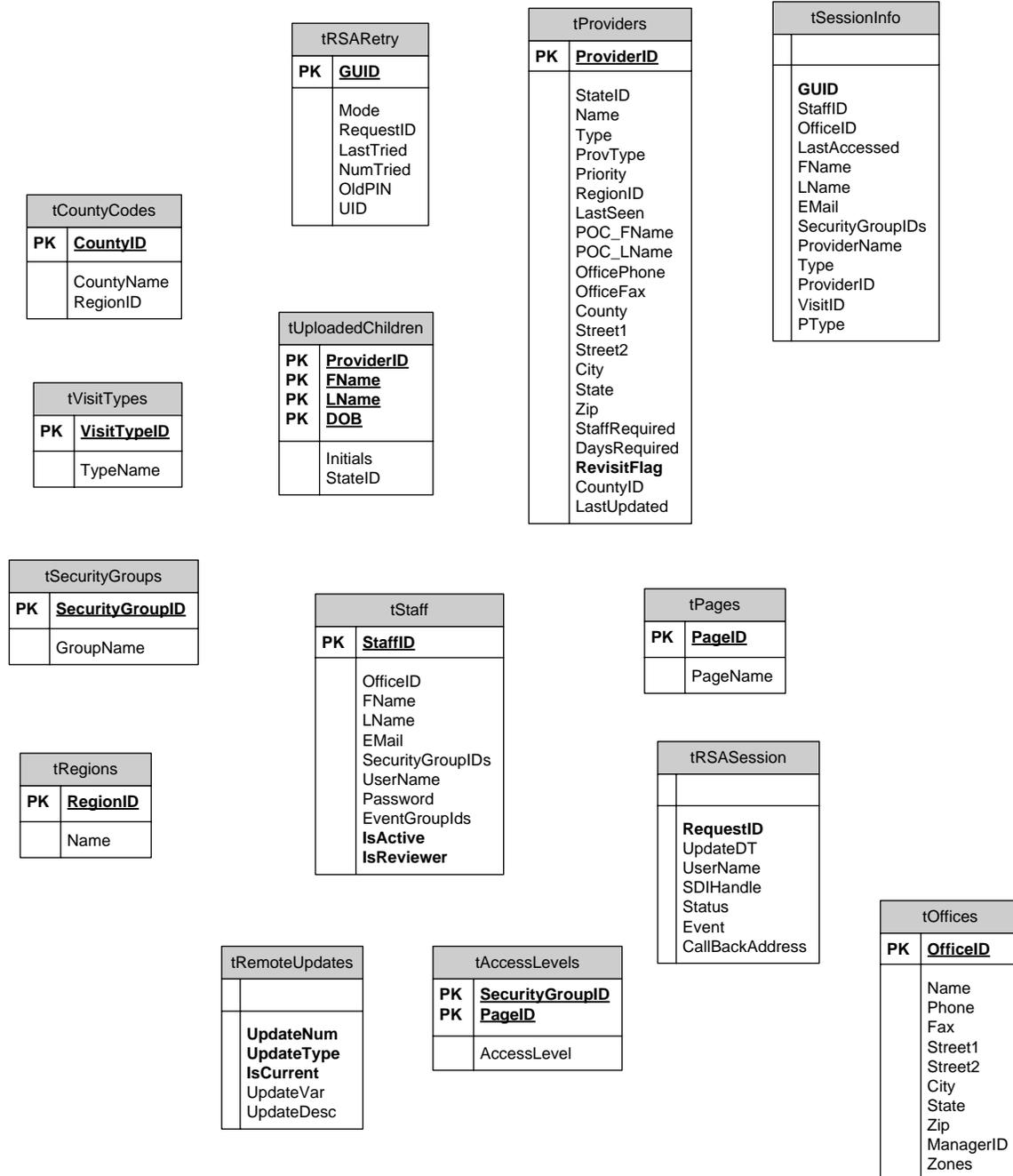
## 5.0 Database ER diagrams by Subject Area

### 5.1 Domains

| Domain Name       | Data Type   | Range                 | Comments                           |
|-------------------|-------------|-----------------------|------------------------------------|
| ChildID           | int         | > 0                   | System assigned unique child ID    |
| ClusterID         | int         | > 0                   | Survey cluster ID                  |
| CountyID          | int         | > 0                   | System assigned unique county ID   |
| CriteriaID        | int         | > 0                   | Survey criteria ID                 |
| EventGroupID      | int         | > 0                   | Unique event group ID              |
| EventID           | int         | > 0                   | System assigned unique event ID    |
| FindingID         | int         | > 0                   | Report finding ID                  |
| GUID              | varchar(50) | 16-Byte Alpha-Numeric | Globally unique identifier         |
| HeaderID          | int         | > 0                   | Report header ID                   |
| IndicatorID       | int         | > 0                   | Survey indicator ID                |
| LineID            | int         | > 0                   | Survey dependent line ID           |
| OfficeID          | int         | > 0                   | System assigned unique office ID   |
| ProviderID        | int         | > 0                   | System assigned unique provider ID |
| ReferenceID       | int         | > 0                   | Report reference ID                |
| RegionID          | int         | > 0                   | System assigned unique region ID   |
| ReportID          | int         | > 0                   | System assigned unique report ID   |
| ReportLineID      | int         | > 0                   | Report line ID                     |
| ScheduleID        | int         | > 0                   | System assigned unique schedule ID |
| SectionID         | int         | > 0                   | Survey dependent section ID        |
| SectionTemplateID | int         | > 0                   | Coversheet section template ID     |
| SecurityGroupID   | int         | > 0                   | Unique security group ID           |
| StaffID           | int         | > 0                   | System assigned unique staff ID    |
| StateID           | int         | > 0                   | System assigned unique state ID    |
| StatementID       | int         | > 0                   | Report statement ID                |
| SurveyID          | int         | > 0                   | Unique survey ID                   |
| SurveyNumber      | int         | > 0                   | System assigned survey number      |
| TemplateID        | int         | > 0                   | Coversheet template ID             |
| VisitID           | int         | > 0                   | System assigned unique visit ID    |
| VisitTypeID       | int         | > 0                   | Unique visit type ID               |



## 5.2 Admin

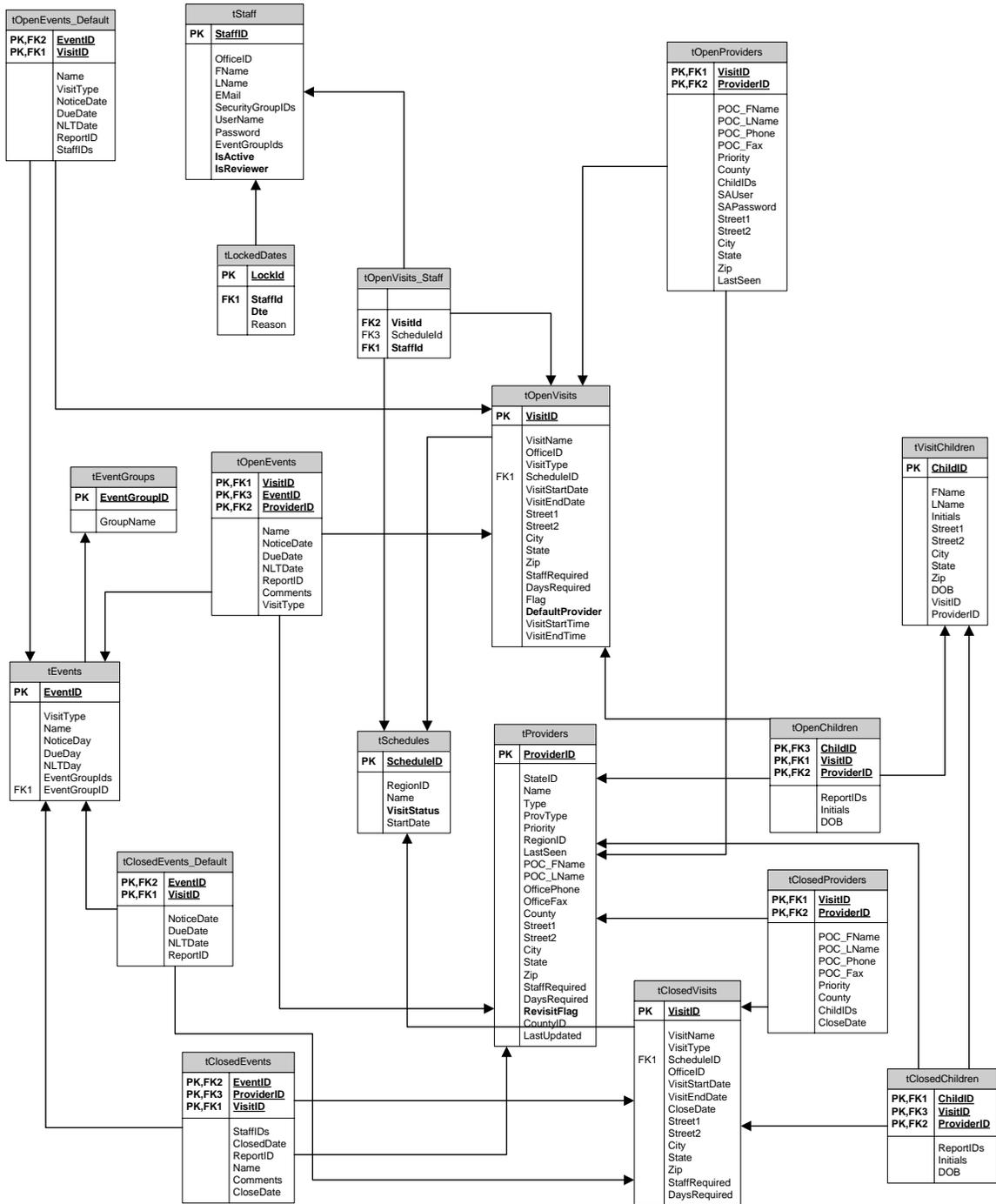


| Table Name    | Comments  |
|---------------|---|
| tAccessLevels | Used to assign access levels for ASP page operation |
| tCountyCodes  | Used to store county names and region association   |
| tOffices      | Used to store office informaion                     |
| tPages        | Used to store ASP page information                  |



|                   |  |
|-------------------|--|
| tProviders        | Used to store provider information   |
| tRegions          | Used to store region information   |
| tRemoteUpdates    | Used to signal that updates are available to the remote PALS application                                     |
| tRSARetry         | Used by authentication services to temporarily store user information during an authentication retry attempt |
| tRSASession       | Used to store authentication related session information   |
| tSecurityGroups   | Used to store security group information   |
| tSessionInfo      | Used by authentication services to store session related information   |
| tStaff            | Used to store staff information  |
| tUploadedChildren | Used to store child information uploaded from DOH prior to visit assignment                                  |
| tVisitTypes       | Used to store visit type information   |

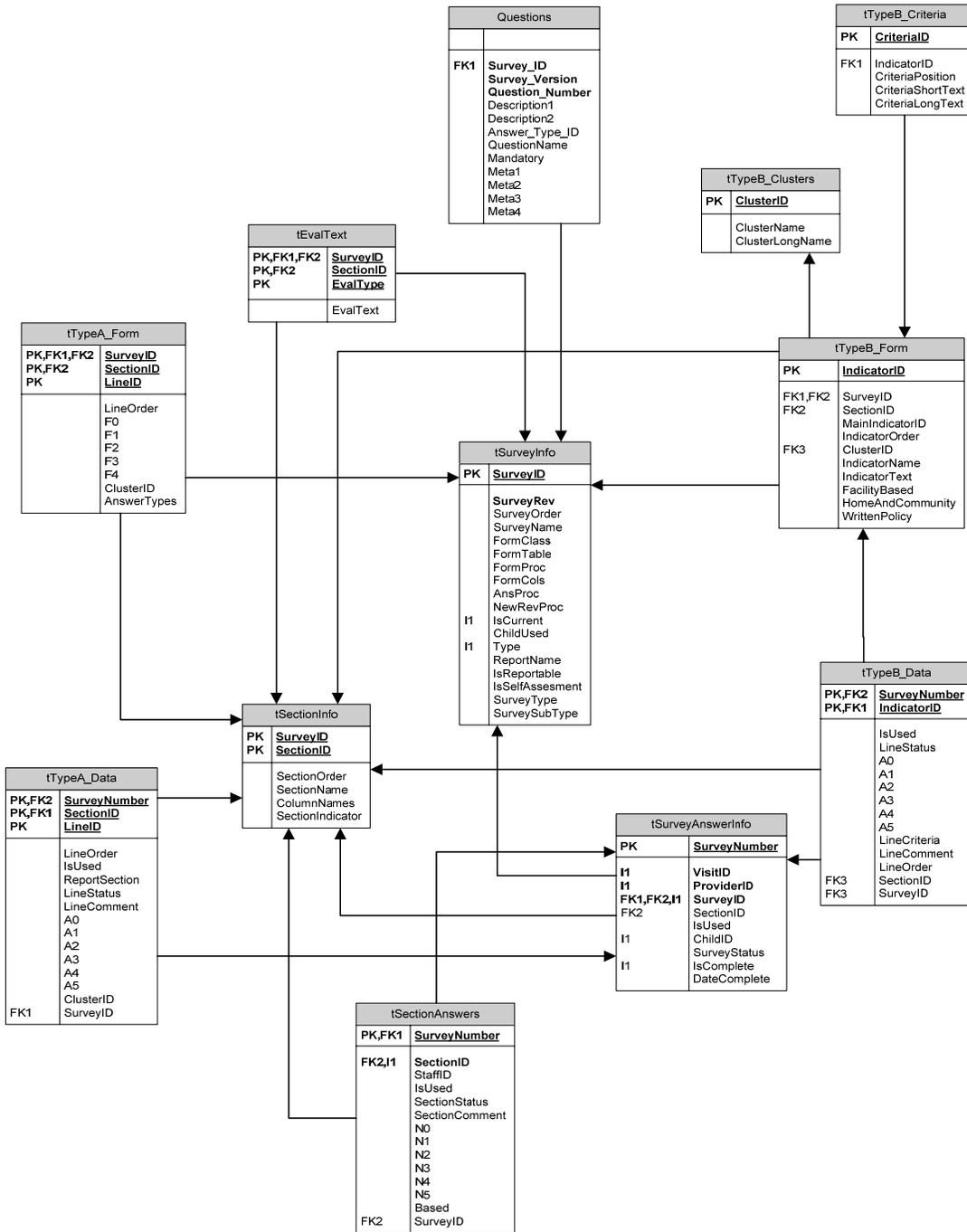
### 5.3 Schedule





| <b>Table Name</b>     | <b>Comments</b>   |
|-----------------------|---|
| tClosedChildren       | Used to store children assigned to a closed visit                 |
| tClosedEvents         | Used to store event information related to a closed visit         |
| tClosedEvents_Default | Used to store default event information related to a closed visit |
| tClosedProviders      | Used to store providers assigned to a closed visit                |
| tClosedVisits         | Used to store closed visit information                            |
| tEventGroups          | Used to store event grouping information                          |
| tEvents               | Used to store event information                                   |
| tLockedDates          | Used to store dates staff are unavailable                         |
| tOpenChildren         | Used to store children assigned to an open visit                  |
| tOpenEvents           | Used to store events assigned to an open visit                    |
| tOpenEvents_Default   | Used to store the default events available for a visit            |
| tOpenProviders        | Used to store providers assigned to an open visit                 |
| tOpenVisits           | Used to store open visits   |
| tOpenVisits_Staff     | Used to store dates staff are assigned to a visit                 |
| tProviders            | Used to store provider information                                |
| tSchedules            | Used to store schedule information                                |
| tVisitChildren        | Used to store children available to be assigned to a visit        |

## 5.4 Survey





| <b>Table Name</b> | <b>Comments</b>                                  |
|-------------------|--|
| Questions         | Used to store metadat data related to questions  |
| tEvalText         | Used to store survey evaluation text             |
| tSectionAnswers   | Used to store survey section data                |
| tSectionInfo      | Used to store survey section metadata            |
| tSurveyAnswerInfo | Used to store survey header information          |
| tSurveyInfo       | Used to store survey metadata information        |
| tTypeA_Data       | Used to store Type A survey data                 |
| tTypeA_Form       | Used to store Type A survey display information  |
| tTypeB_Clusters   | Used to store Type B survey cluster information  |
| tTypeB_Criteria   | Used to store Type B survey criteria information |
| tTypeB_Data       | Used to store Type B survey data                 |
| tTypeB_Form       | Used to store Type B survey display information  |

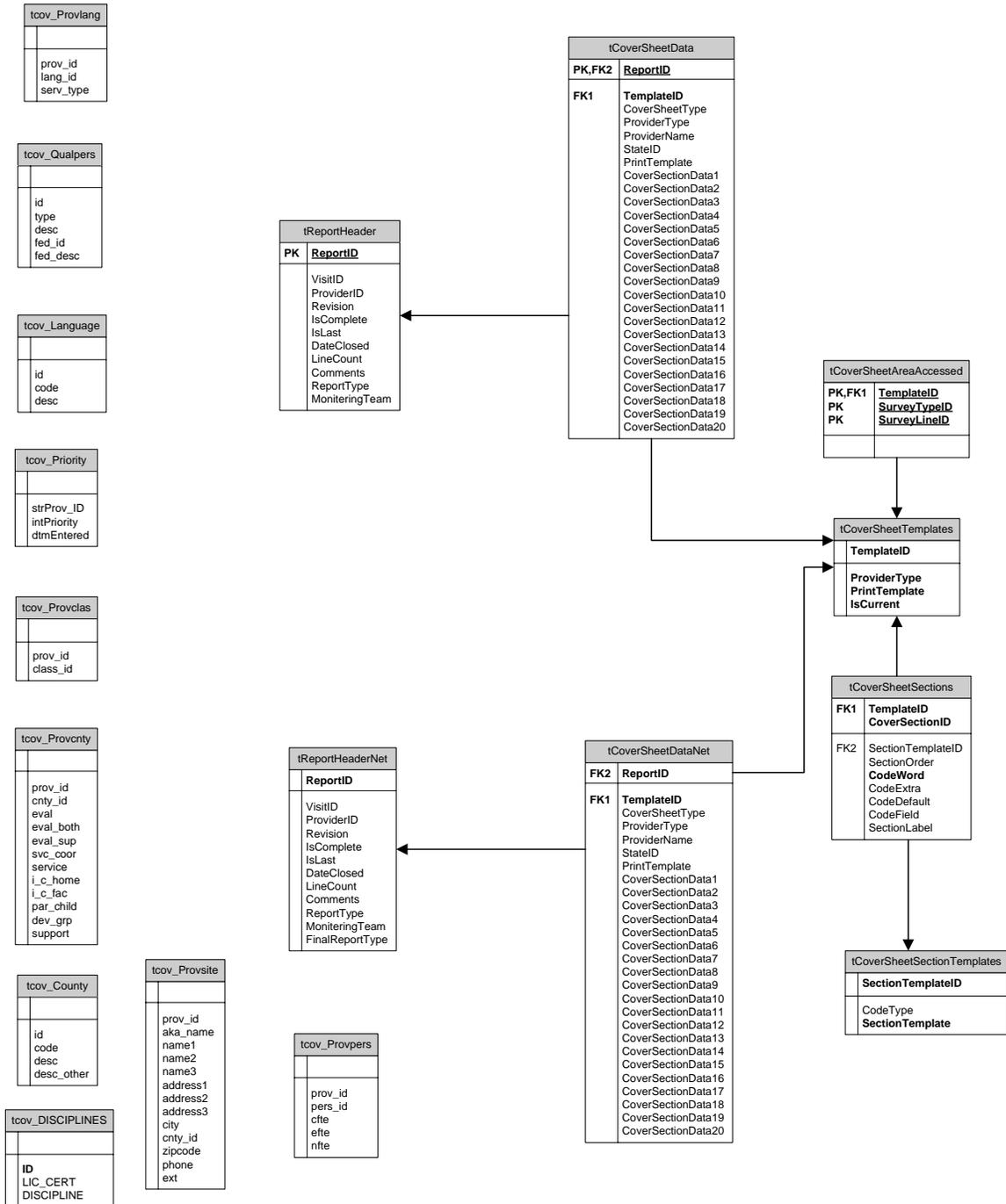




|                           |  |
|---------------------------|--|
| tLockedReports            | Used to lock checked out reports                         |
| tReportClusterCount       | Used to store report cluster count information           |
| tReportClusters           | Used to store report cluster information                 |
| tReportData               | Used to store report line data                           |
| tReportDataNet            | Used to store report line data for .NET version          |
| tReportFindings           | Used to store report finding metadata                    |
| tReportHeader             | Used to store report header information                  |
| tReportHeaderNet          | Used to store report header information for .NET version |
| tReportInfo               | Used to store report line metadata                       |
| tReportMatches            | Used to store report combo matching information          |
| tReportMatchGroups        | Used to store report combo group matching information    |
| tReportReferences         | Used to store report reference metadata                  |
| tReportStatementHeaders   | Used to store report statement header metadata           |
| tReportStatements         | Used to store report statement metadata                  |
| tReportStatementsNet      | Used to store report statement metadata for .NET version |
| tReportStatementsTypeBNet | Used to store report statement metadata for .NET version |
| tRowHeaders               | Used to store report row header information              |



## 5.6 Cover Sheet



**Table Name**

**Comments**



|                             |  |
|-----------------------------|--|
| tcov_County                 | Used to store county information                         |
| tcov_DISCIPLINES            | Used to store provider discipline information            |
| tcov_Language               | Used to store language information                       |
| tcov_Priority               | Used to store provider priority information              |
| tcov_Provclas               | Used to store provider classification information        |
| tcov_Provcnty               | Used to store provider county information                |
| tcov_Provider               | Used to store provider information uploaded from DOH     |
| tcov_Provlang               | Used to store provider language information              |
| tcov_Provpers               | Used to store provider personnel information             |
| tcov_Provsite               | Used to store provider site information                  |
| tcov_Qualpers               | Used to store provider qualification information         |
| tCoverSheetAreaAccessed     | Used to store coversheet area accessed information       |
| tCoverSheetData             | Used to store coversheet data                            |
| tCoverSheetDataNet          | Used to store coversheet data for .NET version           |
| tCoverSheetSections         | Used to store coversheet section information             |
| tCoverSheetSectionTemplates | Used to store coversheet section template information    |
| tCoverSheetTemplates        | Used to store coversheet template information            |
| tReportHeader               | Used to store report header information                  |
| tReportHeaderNet            | Used to store report header information for .NET version |



## 6.0 Software / Hardware Application Programs

| Program Name      | File Type          | DOS File Name                 | Purpose                          |
|-------------------|--------------------|-------------------------------|----------------------------------|
| Scheduler Program | Active Server Page | addNewSchedule.asp            | User Interface and Program Logic |
|                   | HTML Page          | blank.html                    | User Interface and Program Logic |
|                   | Active Server Page | Check.asp                     | User Interface and Program Logic |
|                   | Active Server Page | CheckLogOn.asp                | User Interface and Program Logic |
|                   | Active Server Page | CleanUpUnusedTables.asp       | User Interface and Program Logic |
|                   | Active Server Page | Const.asp                     | User Interface and Program Logic |
|                   | Active Server Page | current_schedule_screen.asp   | User Interface and Program Logic |
|                   | Active Server Page | current_schedule_sidebar.asp  | User Interface and Program Logic |
|                   | Active Server Page | current_schedule_topbar.asp   | User Interface and Program Logic |
|                   | Active Server Page | Data.asp                      | User Interface and Program Logic |
|                   | Active Server Page | default.asp                   | User Interface and Program Logic |
|                   | Active Server Page | EditAnswerType.asp            | User Interface and Program Logic |
|                   | Active Server Page | event_info.asp                | User Interface and Program Logic |
|                   | Active Server Page | Flradio.asp                   | User Interface and Program Logic |
|                   | Active Server Page | formPost.asp                  | User Interface and Program Logic |
|                   | Active Server Page | getlist.asp                   | User Interface and Program Logic |
|                   | Active Server Page | GetProviders.asp              | User Interface and Program Logic |
|                   | Active Server Page | GetSectTest.asp               | User Interface and Program Logic |
|                   | Active Server Page | GetSessionInfo.asp            | User Interface and Program Logic |
|                   | Active Server Page | global.asa                    | User Interface and Program Logic |
|                   | Active Server Page | GlobalProcedures.asp          | User Interface and Program Logic |
|                   | Active Server Page | Globals.asp                   | User Interface and Program Logic |
|                   | Active Server Page | images                        | User Interface and Program Logic |
|                   | Active Server Page | IPROSchedule.asp              | User Interface and Program Logic |
|                   | Active Server Page | logon.asp                     | User Interface and Program Logic |
|                   | HTML Page          | logon.html                    | User Interface and Program Logic |
|                   | HTML Page          | log_task_screen.html          | User Interface and Program Logic |
|                   | Active Server Page | Lookups.asp                   | User Interface and Program Logic |
|                   | Active Server Page | master_validation_01A.asp     | User Interface and Program Logic |
|                   | Active Server Page | master_validation_01A_old.asp | User Interface and Program Logic |
|                   | Active Server Page | master_validation_02A.asp     | User Interface and Program Logic |
|                   | Active Server Page | Month.asp                     | User Interface and Program Logic |
|                   | Active Server Page | monthx.asp                    | User Interface and Program Logic |
|                   | Active Server Page | mySchedule_frame.asp          | User Interface and Program Logic |
|                   | Active Server Page | my_events.asp                 | User Interface and Program Logic |
|                   | Active Server Page | my_schedule.asp               | User Interface and Program Logic |
|                   | Active Server Page | navset.asp                    | User Interface and Program Logic |
|                   | Active Server Page | NewAnswerType.asp             | User Interface and Program Logic |
|                   | Active Server Page | NewSurvey.asp                 | User Interface and Program Logic |
|                   | Active Server Page | NewVersion.asp                | User Interface and Program Logic |



| Program Name                | File Type          | DOS File Name                     | Purpose                                      |
|-----------------------------|--------------------|-----------------------------------|--|
|                             | Active Server Page | new_visit.asp                     | User Interface and Program Logic             |
|                             | HTML Page          | scheduled_tasks_screen.html       | User Interface and Program Logic             |
|                             | Active Server Page | schedule_frame.asp                | User Interface and Program Logic             |
|                             | HTML Page          | schedule_frame.html               | User Interface and Program Logic             |
|                             | Active Server Page | schedule_provider_information.asp | User Interface and Program Logic             |
|                             | Active Server Page | schedule_provider_screen.asp      | User Interface and Program Logic             |
|                             | HTML Page          | schedule_provider_screen.html     | User Interface and Program Logic             |
|                             | Active Server Page | schedule_provider_screen_mod.asp  | User Interface and Program Logic             |
|                             | Active Server Page | SelectRegion.asp                  | User Interface and Program Logic             |
|                             | Active Server Page | SelectReports.asp                 | User Interface and Program Logic             |
|                             | Active Server Page | SelectReports_prov.asp            | User Interface and Program Logic             |
|                             | Active Server Page | SelectVersion.asp                 | User Interface and Program Logic             |
|                             | Active Server Page | select_providers_screen.asp       | User Interface and Program Logic             |
|                             | Active Server Page | ShowReportList.asp                | User Interface and Program Logic             |
|                             | Active Server Page | showReports_prov.asp              | User Interface and Program Logic             |
|                             | Active Server Page | showsections.asp                  | User Interface and Program Logic             |
|                             | Active Server Page | SmartViewerActiveX.asp            | User Interface and Program Logic             |
|                             | Active Server Page | staffAssignment.asp               | User Interface and Program Logic             |
|                             | Active Server Page | Week.asp                          | User Interface and Program Logic             |
|                             | Active Server Page | weekx.asp                         | User Interface and Program Logic             |
|                             | Active Server Page | Welcome.asp                       | User Interface and Program Logic             |
|                             | Active Server Page | welcome_intro.asp                 | User Interface and Program Logic             |
|                             | Active Server Page | welcome_intro_prov.asp            | User Interface and Program Logic             |
|                             | Active Server Page | who are you_1.asp                 | User Interface and Program Logic             |
|                             |                    |                                   |  |
|                             | VB DLL             | iproGenSec.dll                    | VB Dll for server side business objects      |
|                             | VB DLL             | IPROGetProviders                  | VB Dll for server side business objects      |
|                             | VB DLL             | iproSched                         | VB Dll for server side business objects      |
|                             | VB DLL             | IPROSchedule                      | VB Dll for server side business objects      |
|                             | VB DLL             | IPROScheTasks                     | VB Dll for server side business objects      |
|                             | VB DLL             | LTVAlidate                        | VB Dll for server side business objects      |
|                             | VB DLL             | ToolDataLayer                     | VB Dll for server side business objects      |
|                             | VB DLL             | Visit_Scheduling_Modlue           | VB Dll for server side business objects      |
| <b>PALS Windows Program</b> | VB.Net DLL         | GlobalObjects                     | VB dll to implement the common functionality |
|                             | VB.Net DLL         | PalsActiveRep                     | Active report .Net embedded                  |



| Program Name                          | File Type          | DOS File Name   | Purpose  |
|---------------------------------------|--------------------|-----------------|--|
|                                       | VB.Net DLL         | PALSAdmin       | Windows application communication objects              |
|                                       | VB.Net DLL         | PALSCommsClient | Windows application communication objects              |
|                                       | VB.Net Windows EXE | PALSDesktop     | Windows UI components                                  |
|                                       | VB.Net DLL         | PALSReports     | Report control components                              |
|                                       | VB.Net DLL         | PALSSurveys     | Windows UI components                                  |
|                                       | VB.Net DLL         | PALSSync        | Windows UI components                                  |
|                                       | VB.Net DLL         | PALSVisits      | Windows UI components                                  |
| <b>PALS windows msi setup Program</b> | Windows msi        | PALSSetup       | To install PALS window's application on user's machine |
| <b>PAMS Web service Program</b>       | VB.Net DLL         | PALSCommsServer | ASP net web service                                    |
|                                       | VB.Net DLL         | PALSReports     | VB dll to implement the common functionality           |
|                                       | VB.Net DLL         | GlobalObjects   | VB dll to implement the common functionality           |

## 7.0 Software / Hardware Configuration



## **7.1. Software**

### **A. Web Scheduler Application**

- Active server pages
- Visual Basic 6.0
- Javascript
- Cascade Sheet Sheet
- SQL server 2000
- HTML
- Windows XP/2000
- IIS5.0
- Internet Explorer 5.5+

### **B. Web service PAMS**

- .Net Framework 1.1
- VB.Net 2003
- ASP.Net 2003
- SQL server 2000
- XML/SOAP web service
- Windows 2000
- IIS5.0

### **C. Windows PALS**

- .Net Framework 1.1
- VB.Net 2003
- MS Access 2000
- Windows XP

## **7.2 Hardware**

### **A. User Machine**

- Pentium based desktop
- 256 MB RAM
- 1GB hard disk space

### **B. Web/Application server machine**

- Pentium based server
- 1GB RAM
- 10GB hard disk space

### **C. Database server machine**

- Pentium based server
- 1GB RAM
- 10GB hard disk space