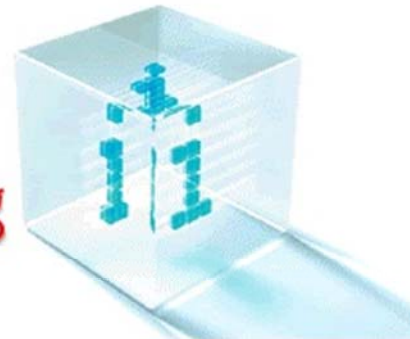


# An Enterprise Solution for Healthcare Data Integration and Rapid Application Development

understanding  
information



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# Managing Information *after* HIPAA: *The Personal Health Information Repository*



The Enterprises That Lead Tomorrow Will Be  
Those That Best Manage Information Today



## What is the PHI Repository?

The PHI Repository is a software product that stores personal healthcare information for physicians, hospitals and managed care “covered entities” using HIPAA PHI standards.

It allows the storage and retrieval of standard transactions *plus* clinical, administrative and financial data on a patient or consumer, either directly from a workstation or through systems integration.

It uses standard HIPAA transactions and also allows the enterprise to define and immediately capture *new information* on a patient or consumer in minutes because it is *uniquely* vocabulary-driven.



# What are the Needs?

- Legacy systems need to merge data into a common format for HIPAA and to extend their useful lives
- Old software products are not HIPAA compliant
- The enterprise needs a “standard” picture of patients and consumers
- You can’t afford to use database experts every time you have new healthcare or marketing information
- You need inexpensive ways to comply and merge data
- Adding new data is traditionally complex and slow



## What is the Solution?

- Use the HIPAA requirements to *gain an advantage* by having an integrated view of data that also tracks PHI for your patients
- Use one repository to integrate *all* required data
- Improve patient safety by being able to track new data that you create in real-time to better protect patients.
- Know your patients and consumers by adding marketing and CRM data about consumers into your repository---link that to clinical and financial data
- Extend the life of your existing systems by using the repository to make them HIPAA compatible



## What Can I Use it For?

- Store and distribute PHI to consumers
- Build marketing, sales, clinical, financial and case management applications quickly and easily
- Integrate legacy application data
- Get a clear picture of consumer, patient, provider and claims data
- Mine the data for value and trends



# What Are the Benefits

- Your applications last longer and add value
- You get one expert-designed integration “vault”
- You design your own local vocabulary
- You can add simple reports and forms ASAP
- The vocabulary design can support marketing, finance and clinical applications
- You can build many applications without a DBA
- Finance and clinical personnel control the process



# What are the Management Features

- You are HIPAA compliant for all new data
- You can create a common enterprise vocabulary and immediately share data
- Simple patient safety, marketing and clinical applications can be designed with only Microsoft Access®
- You get more value from creating relationships among older legacy applications.
- You get more value from systems integration because the database, vocabulary and relationship engine accelerates design and development
- You can create a form and transaction for any data in minutes and get into the database ASAP, protecting you and your patients.



# What Are the Technical Features?

- Allows systems integrator to immediately build a generalized secure HIPAA repository for any healthcare, insurance or employer entity
- Store PHI, related documents, disclosure facts
  - *Data (clinical, financial, administrative)*
  - *Documents (Contracts, licenses, other intellectual property)*
  - *Images (MRI, x-ray, etc.)*
  - *Relationships (Everything can be linked by an analyst)*
  - *Metadata (Build your own vocabulary in real-time, no DBA!)*
  - *Standard HIPAA Transactions*



# Target Markets

- Systems Integrators
- Consulting firms
- Healthcare providers
- Governments
- Insurance companies
- Pharmaceutical companies
- Large employers



# Who will Use the Product

- A systems integrator to merge application data
- An analyst to add new variables about entities: people, contracts, services, providers, etc.
- An end user to generate a report on any entity
- Data analysts to mine the standard transactions



# A PHI Repository™ for HIPAA

- Manages enterprise PHI data
- Creates persistent audited PHI data
- Coordinates linking documents & data objects
- Captures all legal and healthcare relationships
- Secures and updates information among internal groups and external partners
- Enables a complete audit trail of PHI data
- HIPAA with NPRM April 2002 (PwC Guide)

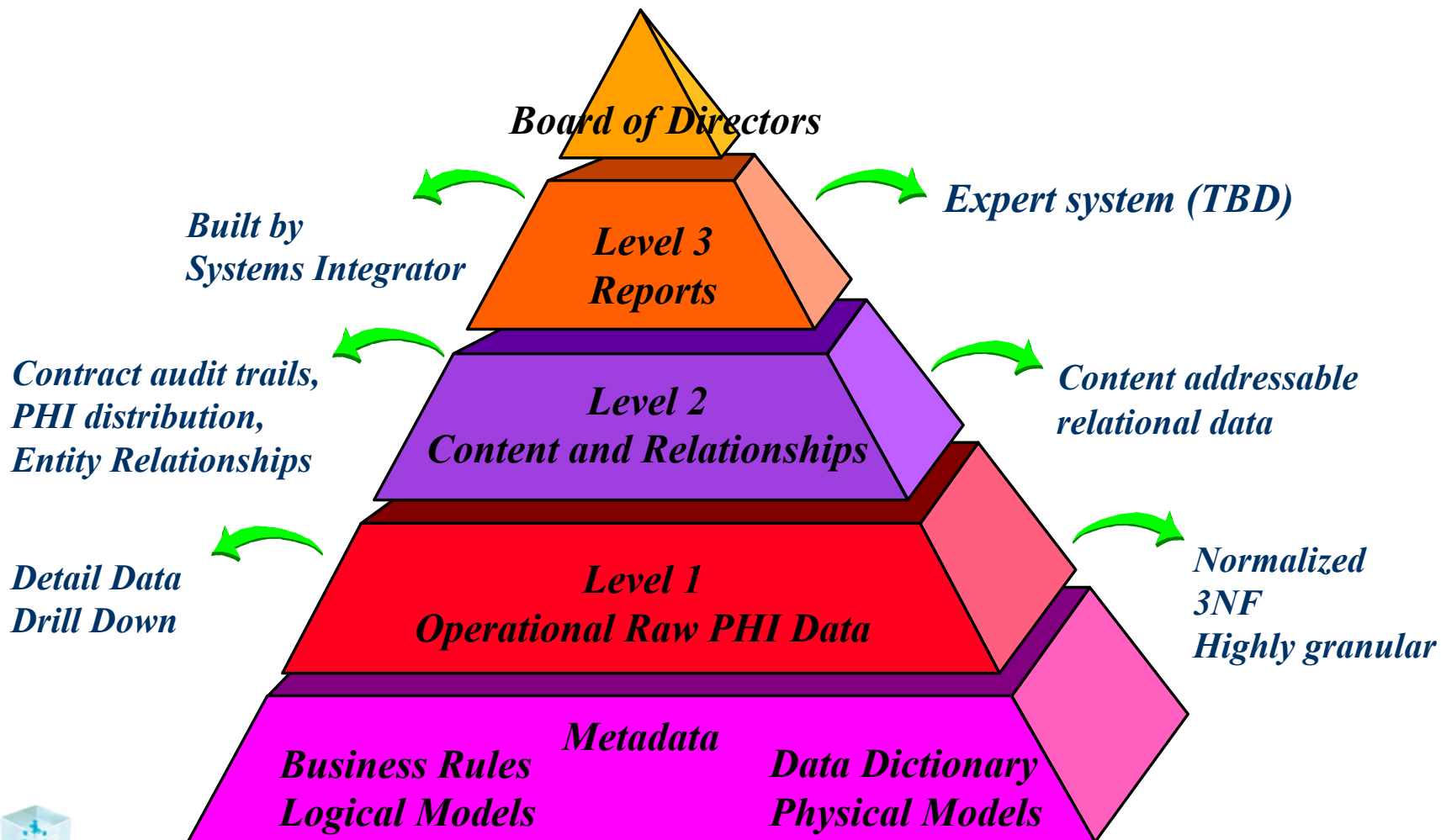


# What Do I Get When I Buy?

- Foundation repository for HIPAA compliance
- Database to track PHI, audit trails and contracts
- A generalized data warehouse for healthcare enterprise
- MS Access Workstation for data entry and report generation of your own vocabulary
- SQL to build the repository
- Healthcare and insurance metadata



# The Foundation for PHI Data Management



## For the Systems Integrator: What Problems Does It Solve

- Systems Integrator needs a single standard database to support a healthcare, insurance or provider entity that is HIPAA certified
- One architecture serves all PHI data and a *local vocabulary*
- Based on standard SQL relational database architecture
- Provides extensive data dictionary of thousands of data elements
- SI can focus on loading and tracking data and not designing databases
- Also enables a generalized repository for all enterprise healthcare or financial data
- Moves the project quickly to loading and analyzing data
- The vocabulary-driven architecture allows great flexibility in design



# Return On Investment for SI

- Minimal or no database design time
- Rapid application development
- Expand market share for healthcare solutions
- Supports all computing platforms
- Can be expanded to data warehouse scale
- Designed by experts for systems integrators
- One database for admin, clinical, financial



# What Are The SI Benefits?

- Move into construction immediately
- Avoid redesign of database to add data
- Built by experts with 30 years database design
- SQL Server and DB2 versions will be available
- Creates enterprise foundation warehouse
- Gives SI multiple new sales opportunities
- Uniform architecture for all clients



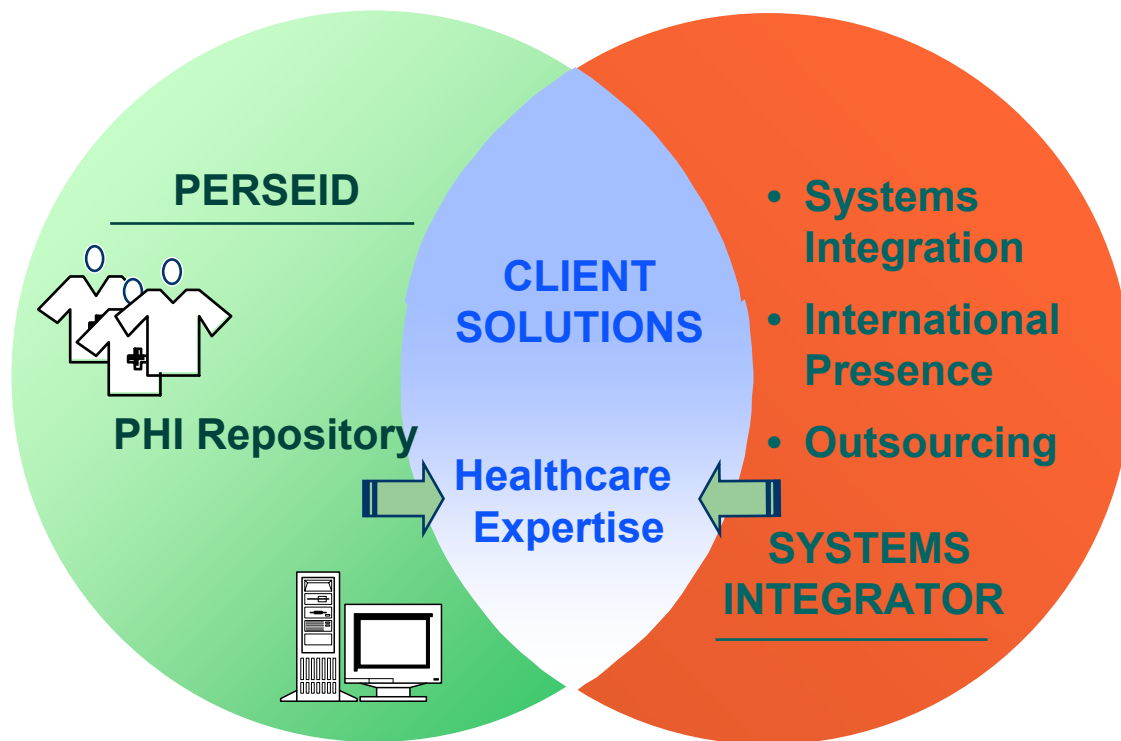
# Something for Everyone

- Executive --- Quick HIPAA database solution
- IT Executive --- Single architecture for all data and extensible through your own vocabulary.
- Administrator --- Add data elements without redesign of database
- Systems Integrator --- One architecture and design, easily modified, handles both standard transactions and vocabulary-driven data

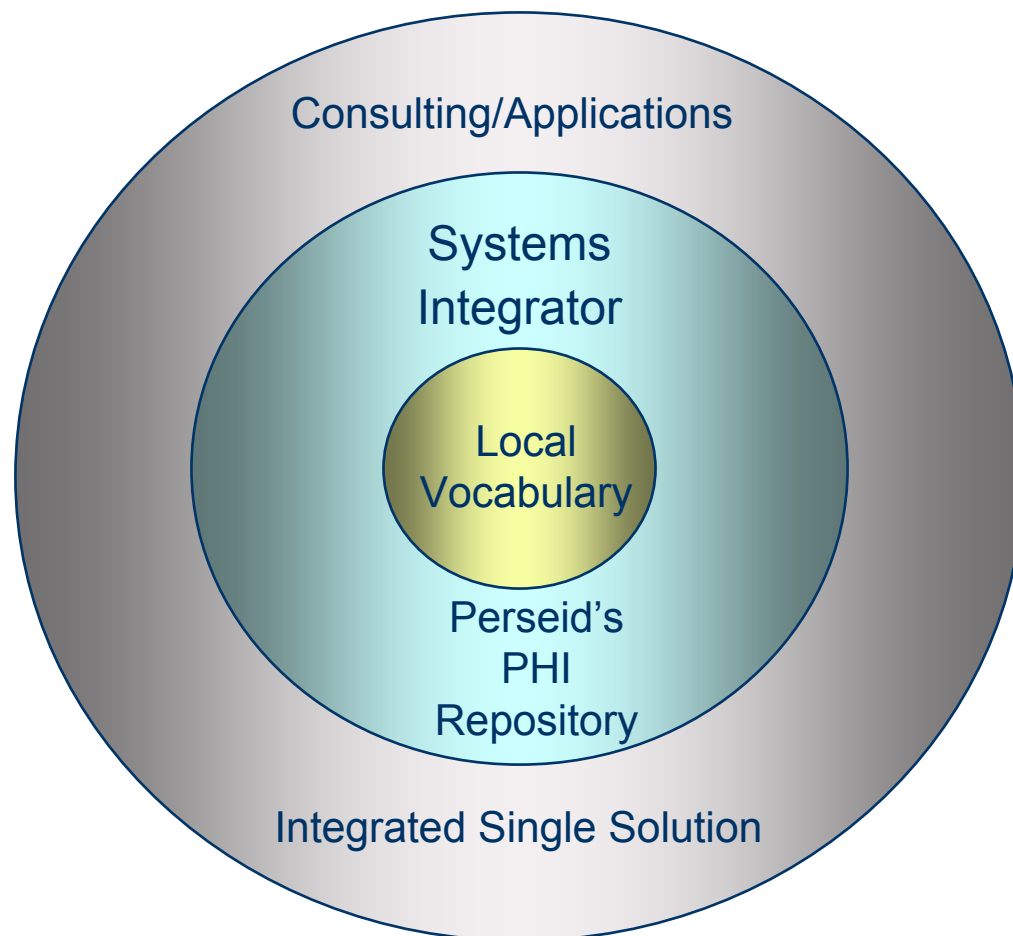


# Systems Integrator's Solution Strategy

- Perseid and its systems integrator partners focus on using technology as a lever to solve critical business problems and to deliver outstanding business results
- Combination of strengths to quickly, flexibly, reliably and cost effectively meet client's needs



# PHI Repository is the core of a secure, extendible solution with local flexibility



## HIPAA PHI Security and Audit Background

- Personal Health Information (PHI) must be secured and available in a database for entities and the patient
- PHI must be available to the patient to annotate and have in electronic form, few exceptions (mental health)
- All “covered entities” must comply, no exceptions
- A complete audit trail of interactions among covered entities for PHI is required by contract
- Mandatory implementation by 2003
- Is independent of HIPAA transaction requirements
- Severe penalties for failure to comply



# Competition

- Local attempt to integrate of all PHI databases
  - Custom coding by client
- “Do nothing” and hope Congress amends HIPAA again
  - Very unlikely
- Develop SI one-off solution for each client
  - Limits SI responsiveness and market share



# Technology

- Oracle and DB2 database
- ErWin database model and documentation
- Content-addressable storage vocabulary implemented with relational database architecture
- Stores data, images, documents
- Tracks all entity and PHI relationships
- Fully integrated enterprise metadata
- Standard transactions and quick CAS variables
- MS Office based product, quick start-time



# Technology

- Data elements are added as metadata
- Metadata is linked to PHI content using relational database to create PHI per patient
- Content-addressable architecture provides flexibility
- High-performance “thin” database
- Results in very easy database administration
- Supports all forms of current and future PHI without database modification

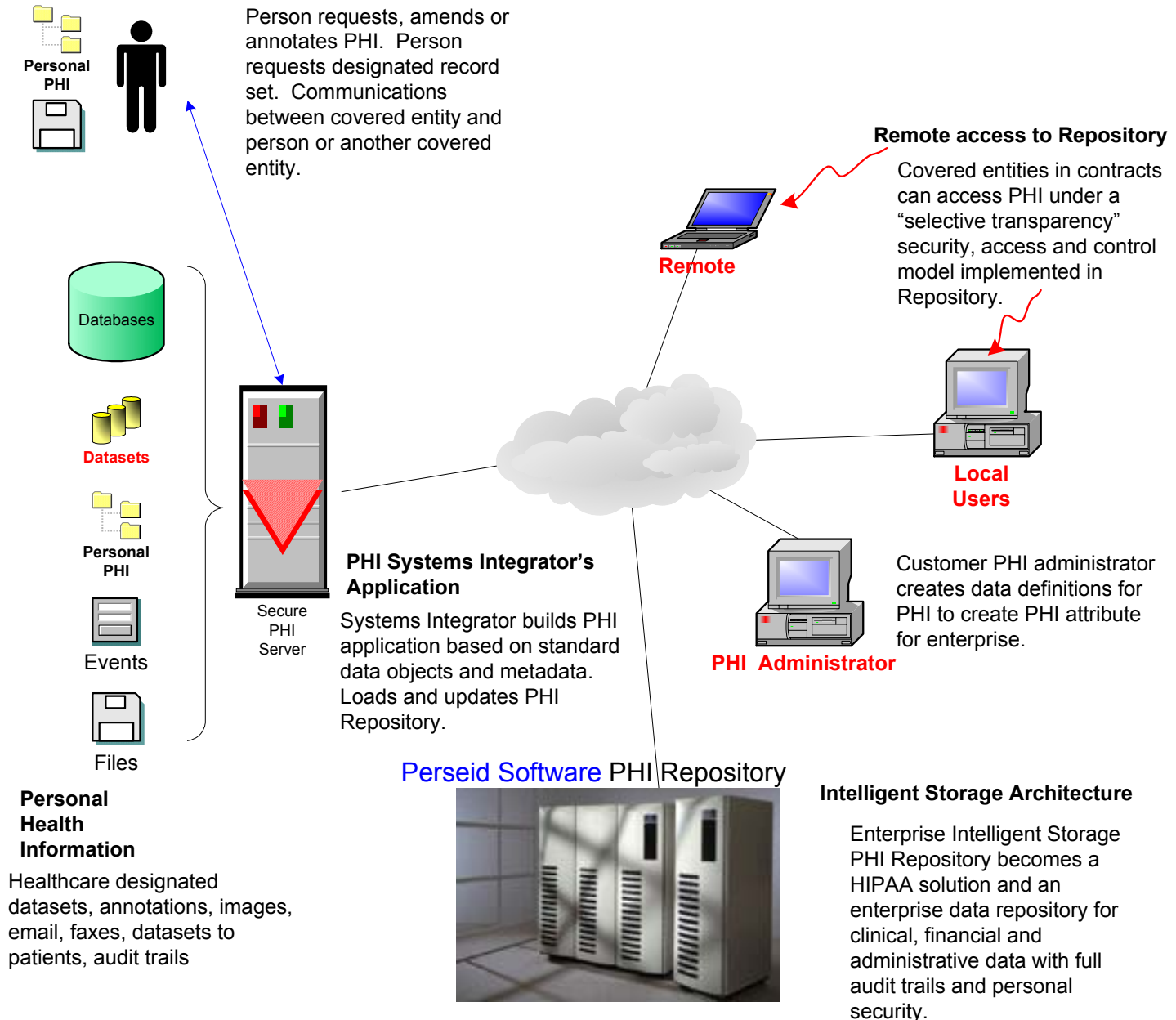


# Architecture, Phase I & II

- Summer 2002 Design and Requirements Complete
- Fall 2002 PHI Repository V1.0 completed
- Fall 2002 Select Integration Partners
- Fall 2002 MS Office Workstation
- Winter 2003 JAVA Workstation



# Architecture of the PHI Solution



# Perseid Software

- 30 Years healthcare experience
- 25 years database design experience
- Large-scale database expertise
- Large-scale SI project expertise
- Healthcare, insurance, clinical expertise
- Expertise in all major platforms
- Expertise in data warehousing/DSS



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