



Automated Data Exchange System for Environmental Public Health Tracking Network in New York State: Functions, Specifications and Applications

Dr. Linh H. Le, New York State Department of Health (NYSDOH), Leslie Brennan, New York Department of Environmental Conservation (NYSDEC), Dr. Ivan Gotham, NYSDOH, Dr. Philip Somervell, NYSDOH, Dr. Debra Sottolano, NYSDOH



Background

- Rapid and secure electronic interchange of information between NYSDOH and its public health partners including NYSDEC is essential to the tracking of environmental hazard exposures and adverse health effects.
- As a part of the original EPHT grant, NYSDOH proposed to study the feasibility of and plan for developing a data exchange system between NYSDOH and NYSDEC that will be communication backbone for the EPHT Network in New York.



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NYSDOH Health Commerce Network

- NYSDOH has developed an enterprise-wide architecture for secure, Internet-based, health-related electronic commerce
- Supports over 100 web-based applications and 20,000 users, with 300 new users being added each month
- Connect all local health departments, local social service units, hospitals, nursing homes, community health centers, 200 pharmacies and 6000 physicians, and more than 120 clinical and environmental laboratories



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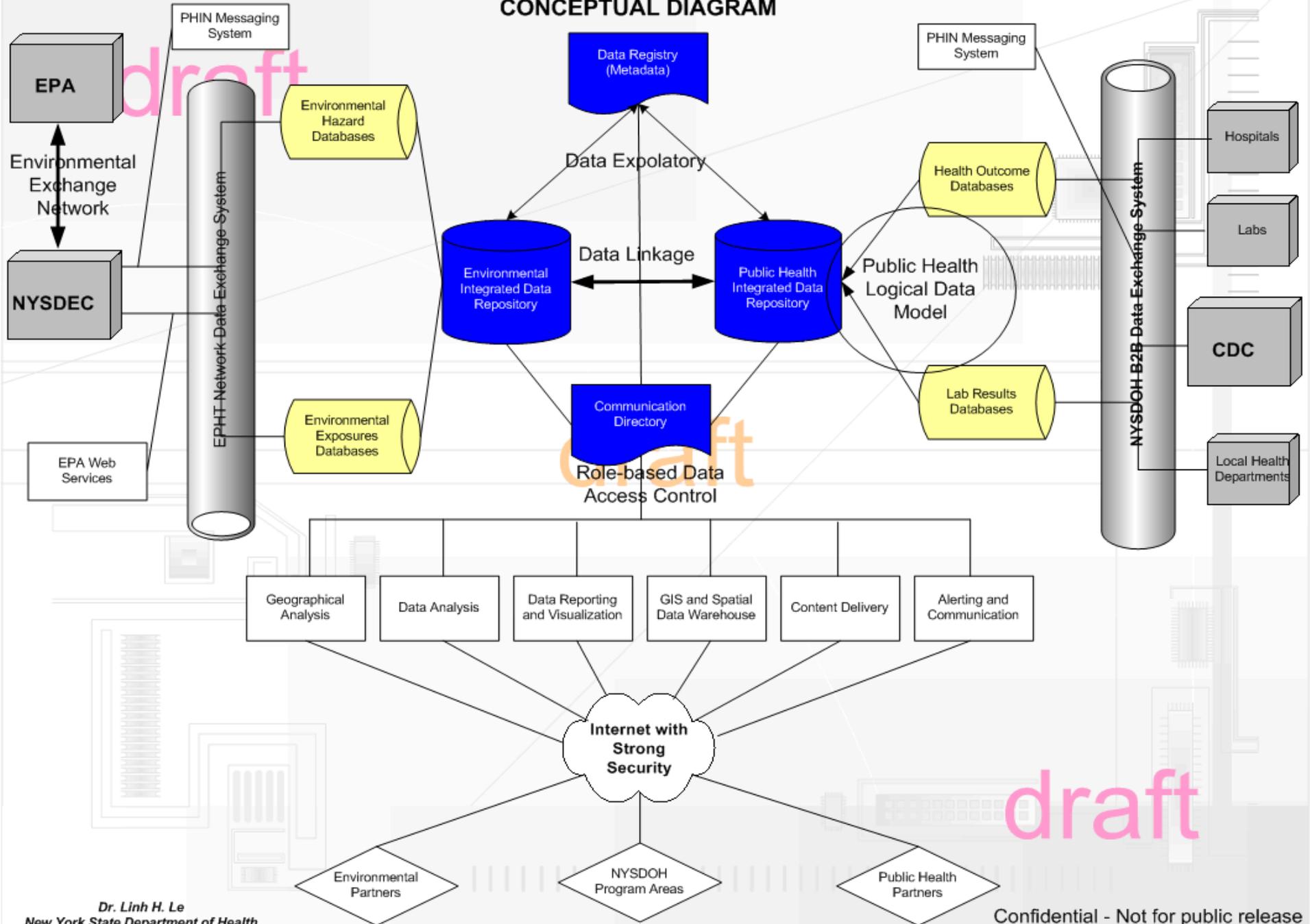
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NYSDEC IT Infrastructure

- NYSDEC has developed an enterprise information architecture for both internal and external needs
- Supports more than 250 client/server and web applications with 4000 users and more than 40 network access points throughout the state
- NYSDEC is a recent recipient of an Environmental Information Exchange Network grant from the USEPA

DRAFT NEW YORK STATE EPHT NETWORK CONCEPTUAL DIAGRAM





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PHINMS and Exchange Network

- Public Health Information Network Messaging System is a specific instance of the ebXML version 2.0 Standard Message Service Handler for secure message transport compatible with PHIN standards
- The National Environmental Information Exchange Network (Exchange Network) is a new system for exchanging environmental data between EPA, States, and other partners that uses the Internet and standardized data formats

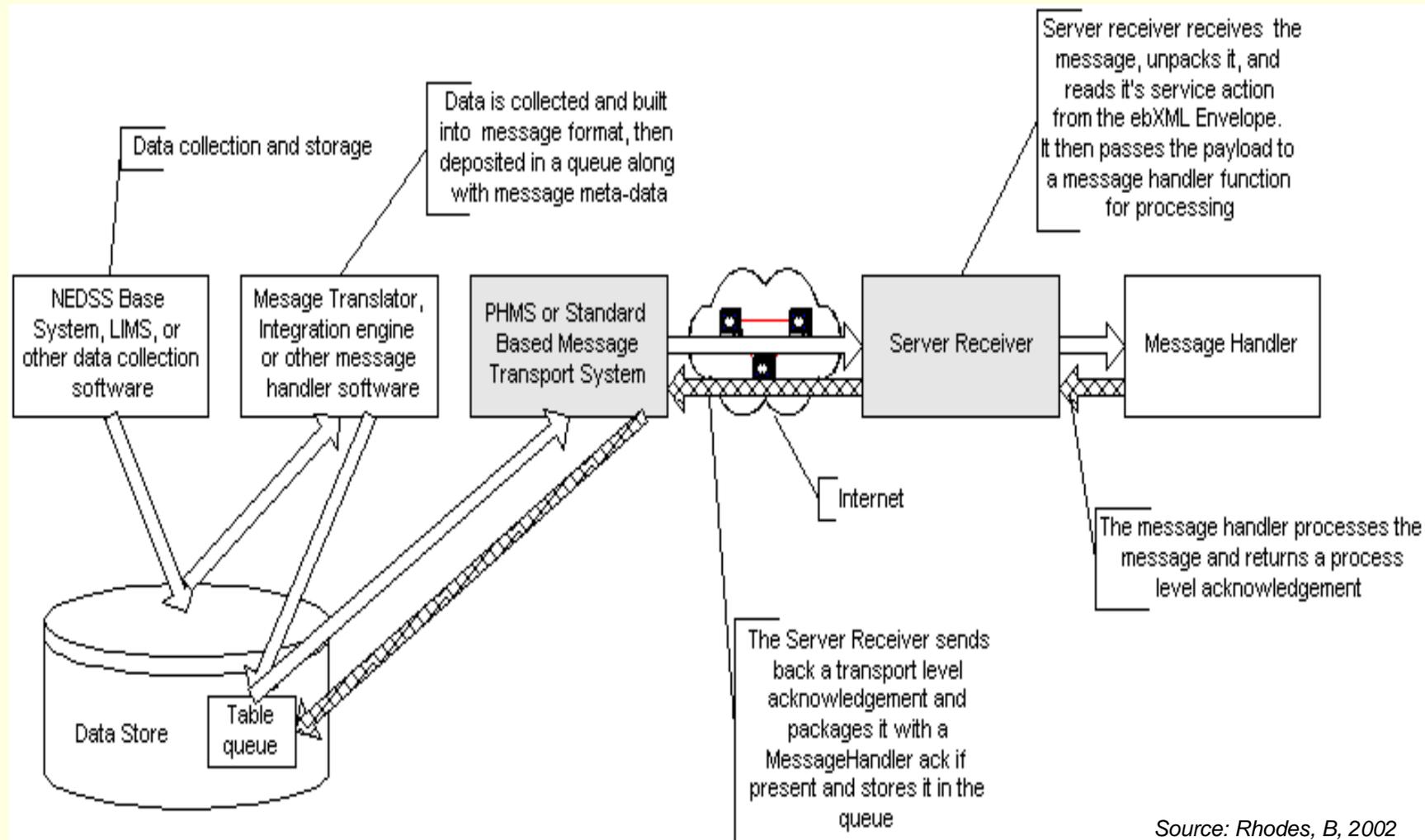


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Typical Architecture of PHINMS



Source: Rhodes, B, 2002



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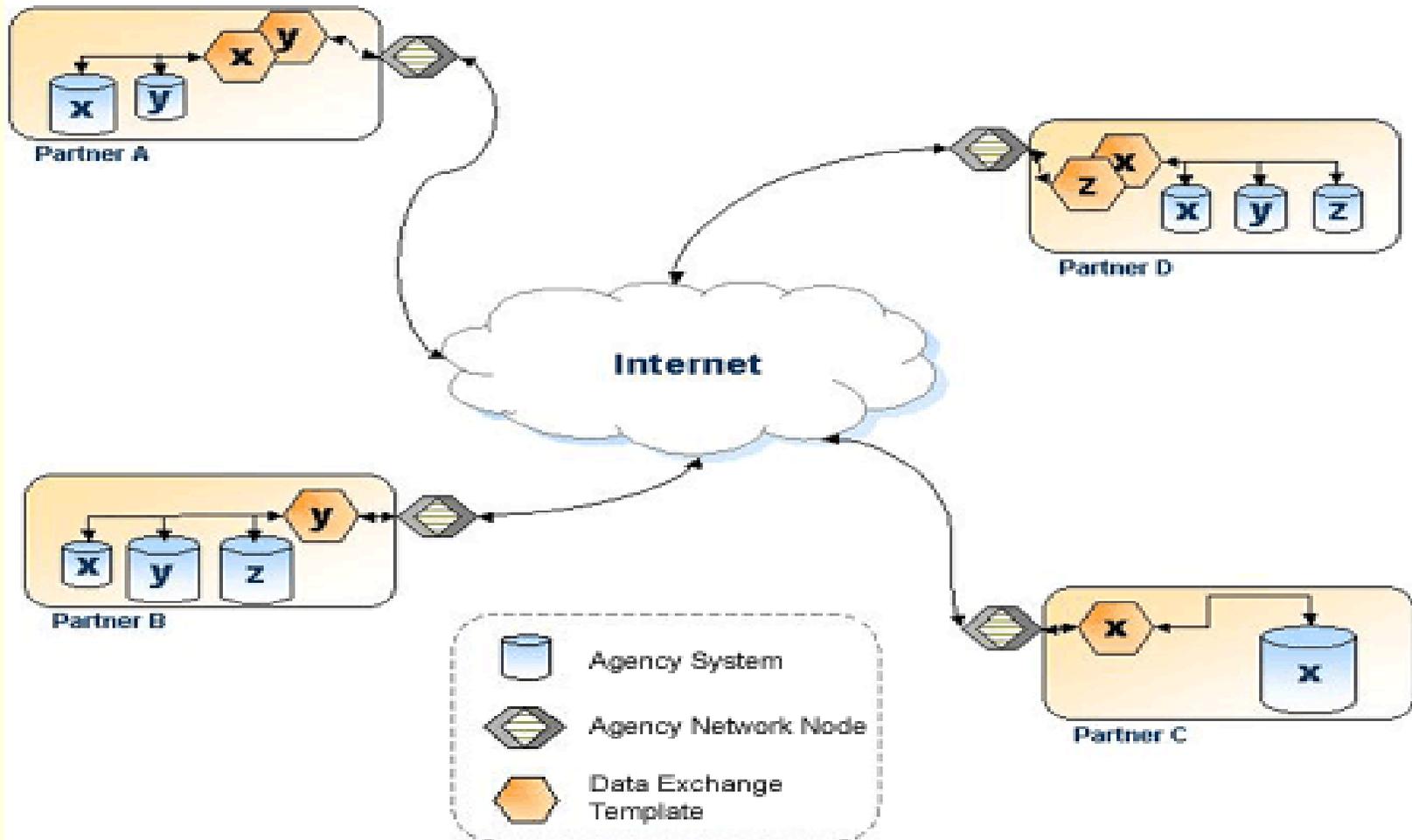


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EPA Exchange Network



Source: <http://www.exchangenetwork.net>



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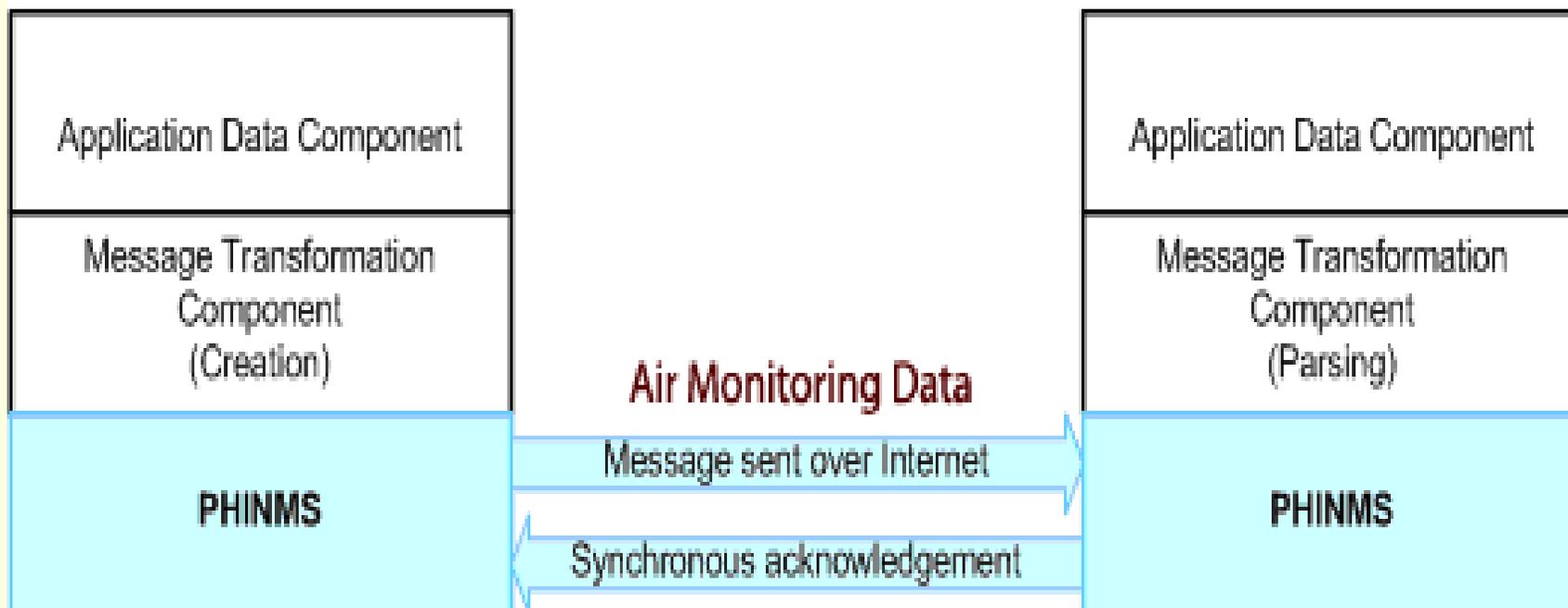
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NYS EPHT Data Exchange System

NYSDEC
Message Sender

NYSDOH
Message Receiver





Why PHINMS

- Using existing secure health commerce infrastructure.
- Minimize invasion of partner (NYSDEC) architecture
- Standards based (ebXML 2.0)
- Can transfer all types of files, not just XML
- Endorsed by Gartner in an evaluation of PHIN
- Potential adoption by HL7
- Platform independent
- Reasonable implementation cost (?)



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ebXML and Web Services

- Neither is ideal as of now
- ebMS is based on a variation of SOAP, which allows for better alignment with the widely proliferated Web Services initiatives.
- The OASIS group working on ebMS has stronger ties with the Web Services community and is more likely to converge with WS-Reliability as it evolves



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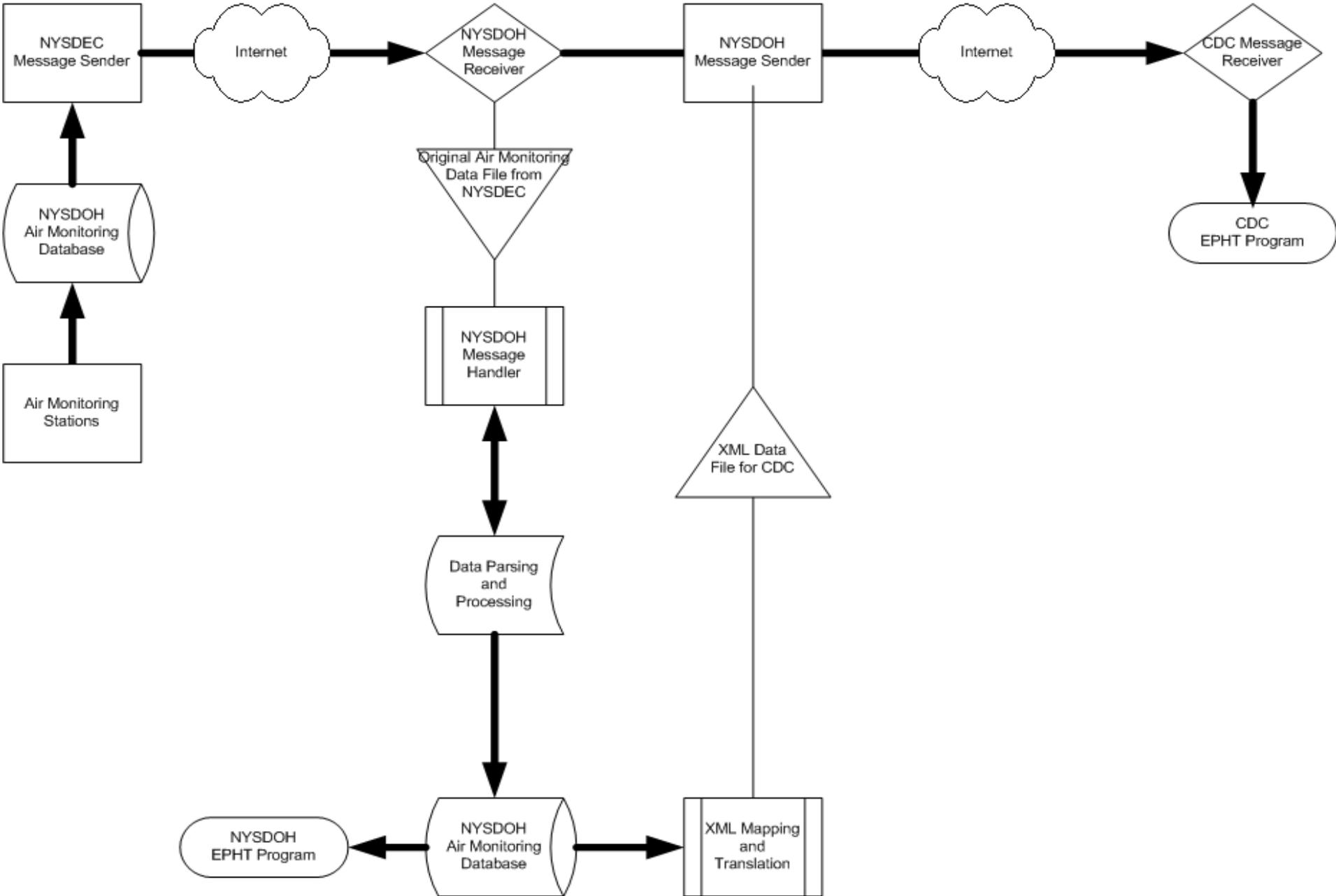
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Goals

- Develop a Pilot Data Exchange System between NYSDOH and NYSDEC using PHINMS v2.0 and the Network Node architecture
- Conduct functional and performance testing and explore interoperability issues between the EPA Exchange Network and the PHINMS
- Using the data exchange system to automate transport air monitoring data from NYSDEC to NYSDOH for the original EPHT grant project and look to extend that to a complimentary data flow.
- Provide recommendations to CDC and other EPHT grantees on implementation of automated exchange of data between public health and environmental agencies

PILOT PHINMS-BASED DATA EXCHANGE SYSTEM FOR EPHT NETWORK





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PHINMS Implementation Issues in NYS

- Must use single existing firewall port HTTPS/SSL
- Must use existing Health Commerce authentication/access control system
 - Specialized security MOUS for B2B accounts
 - Facility security coordinators
 - Communications directory
 - DOH Program control over permissions for facilities to send data



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Operational Plan

- Deploy PHIN MS at NYSDEC
 - Establish Health Provider Network file transfer account
 - Install PHIN client in NYSDEC Network
 - Test Connectivity
 - Flow air monitoring test data
 - Develop schedule and tool for data transfers
 - Flow air monitoring data to NYSDOH



Operation Plan (cont)

- NEIEN to PHINMS Direct Exchange
 - Establish trading partner agreement between NYSDEC and NYSDOH
 - Establish NEIEN Node at DEC
 - Study technical architectures for PHIN and NEIEN
 - Identify needed technical requirements
 - Install and configure additional technical architecture identified
 - Develop test plan
 - Test flows between NYSDEC and NYSDOH
 - Implement data exchange



Current Status

- The PHINMS software has been successfully deployed in NYSDOH and NYSDEC. It has been used by NYSDOH to exchange health data with hospitals, laboratories and CDC
- Work is in progress to revive the process of establishing Health Commerce accounts for NYSDEC to start the data flow



Discussion

- NYSDOH and NYSDEC have a longstanding relationship of collaboration that reflects on the success of this project
- This exchange system will facilitate data sharing and enable data linkage in the EPHT Network
- Results of implementing this exchange system will be of direct benefit by providing valuable lessons for the development of the EPHT Network in New York State and moreover the national EPHT Network data standards and technical specifications.