BioSurveillance Reference Implementation

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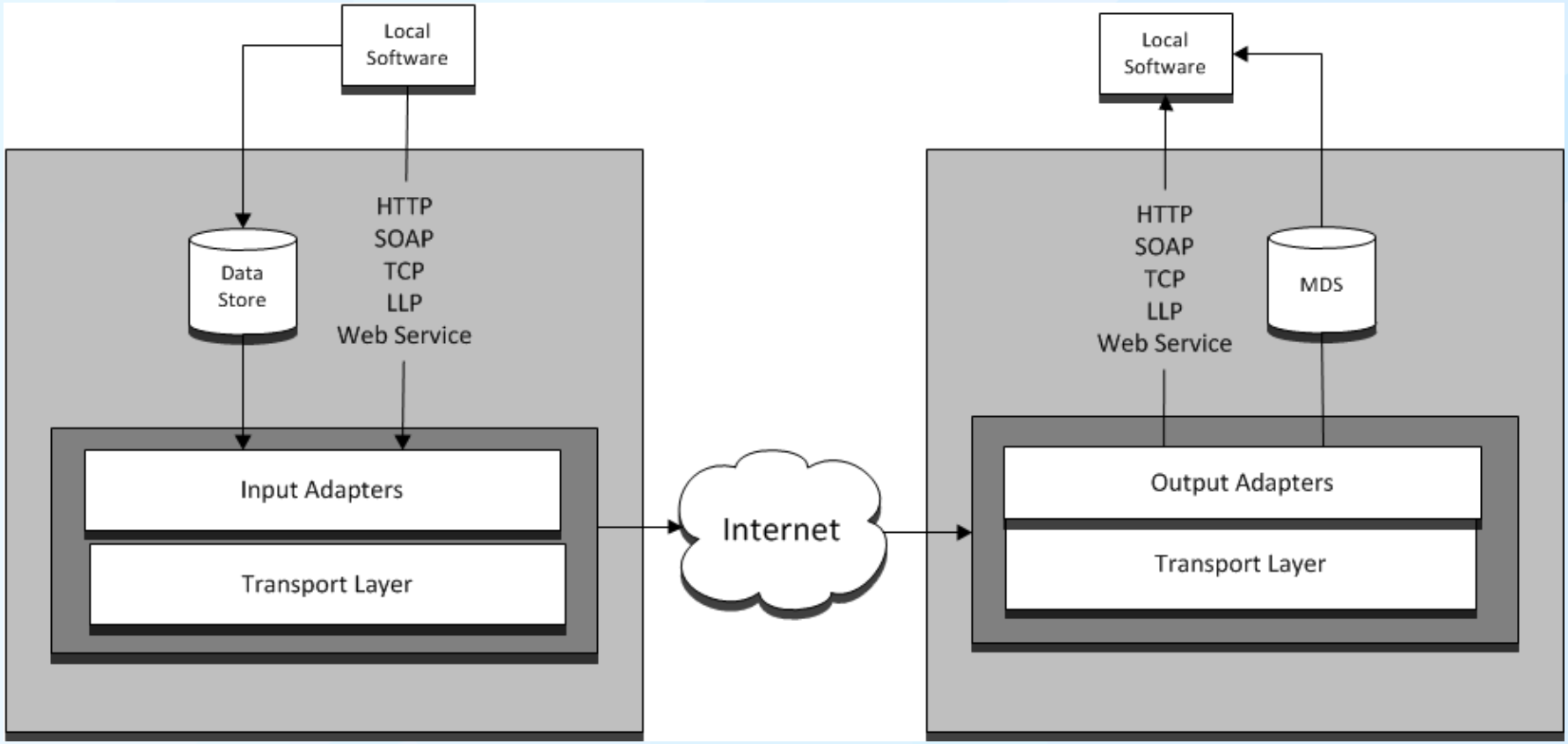
Overview

- **What problem does the Reference Implementation solve?**
  - Seamlessly transmitting Syndromic Surveillance data from remote locations to one, or more, receiver locations.
  - Implementing the MU standard and offering feedback.
    - Kicking the tires so to speak
  - Doesn't require that the receiving organization understand and implement HL7 2.x.
    - Not all PHA's can accept incoming HL7 messages.
    - Can optionally output to database tables.

Intended Users

- Users could be EHs and UCs that want to test a connection.
- PHAs and HIEs that want to receive data and don't have the infrastructure to handle the HL7 "raw"
- Users who wish to transmit to BioSense
- Certification groups that need to test appropriate submission from EHR products, or aggregation for HIEs.

Conceptual Diagram



Input Adapters

- **HL7 Pipe Delimited Input**
  - HL7 ADT Messages versions 2.3.1
  - Straight from the implementation guide
- **HL7 XML Input**
  - HL7 ADT Message data in XML format
  - XML format may be easier for newer systems.
- **Database Input**
  - Read input data from a database table or view
  - Removes HL7 requirement from the system.

Output Adapters

Output Adapters

- **HL7 Pipe Delimited Output**
  - Writes HL7 pipe delimited data to a file
  - Unfiltered data.
- **Database Output**
  - Write output data to a database table or view
  - Allows PHA's without HL7 capabilities to participate.
  - MDS complaint structures, can be used for reporting and analysis tools.

Transport Options

- **CONNECT Administrative Distribution Transaction**
  - One-way communications
  - Easy to implement
- **CONNECT Document Submission Transaction**
  - Two-Way communications
  - Message Acknowledgment
  - Basic validation

Validation

- **Basic validation routine**
  - Checks for required fields.
  - Provides warning to the sender if required fields are missing.
  - Moves failed messages to a holding bin
    - Used for further analysis by system administrator
  - No Rejects
    - Failed/incomplete messages are never rejected
    - Identified for further investigation.

Future Directions

- **We are prioritizing development based on feedback from the Surveillance Community– We WANT to hear from you.**
- **New transport Channels**
  - Direct
  - LLP
  - Secure FTP , etc.
- **Registration**
- **Reach Back**
- **Reports/Analysis**

Future Directions: Registration:

- Described in the ISDS Recommendations(but not fleshed out)
- Some data is needed to identify reporting failures, POCs for resolving data quality issues, etc.
- We are providing some recommended guidance in written form , but can also develop a capability to help the onboarding process of new ERs/UCs.
- We are looking at implementing an open source capability to allow this data to be collected in an automated, consistent fashion.

Future Directions: Reachback

- The ISDS Recommendations mention several interactions between the sender and receiver that are out of scope in the current guide (such at Data quality, follow up an data abnormalities, etc.)
- We are proposing developing an open source capability to allow secure “reach back” from a PHA to a sender to address these issues consistently and securely.

Future Directions: Report/Analytic support:

- Audit log summary of messages sent by each sender
- Application of shared syndrome definitions against the data in the Minimum Data set.
- Summary of reporting over time to support MU Stage 2 attestation.

Further Information

- www.cophm.org
- Kieran Dunne – Kieran.Dunne@agilex.com
- ISDS Recommendations
  - http://www.syndromic.org/uploads/files/ISDSRecommendation_FINAL.pdf
- PHIN Messaging Guide
  - http://www.cdc.gov/phin/library/guides/PHIN_MSG_Guide_for_SS_ED_and_UC_Data_v1_0.pdf

Questions