Proposal for Demonstrating at California Connects 2014

Use this template to communicate critical information for each demonstration proposed for the **2014 California Connects Interoperability Exhibition**, to be held at the *Connecting California to Improve Patient Care in 2014* conference sponsored by Redwood MedNet.

Prospective participants in California Connects 2014 must complete a proposal following this template for each proposed demonstration, and submit it for approval to the California Connects Steering Committee via email c/o Karen Boruff at karen.boruff@ca-hie.org. Please see the California Connects 2014 page at http://www.ca-hie.org/projects/california-connects-2014 for more information. Direct any questions to Karen Boruff at karen.boruff@ca-hie.org or Rim Cothren at robert.cothren@ca-hie.org.

1. Demonstration Synopsis

Please provide a title for your demonstration and a brief description of the demonstration. Try to limit the description to no more than 100 words. The title and description will appear on our web site in advance of the Exhibition to attract meeting participants to your demonstration.

Direct Address Discovery & Document Delivery

Using robust, open-source interfaces RAIN Live Oak DIRECT will demonstrate a speedy and reliable process for a registered ambulatory or acute healthcare provider to search the CTEN federated provider directory to discover a Direct address and transmit medical documents and referral information.

2. Demonstration User Story

Please provide a user story describing the demonstration, with specific emphasis on its clinical relevance. Be specific, illustrating how you will weave the technology you are demonstrating into real clinical flow.

Oak Valley Hospital wishes to refer a patient to a specialist outside of the community. The Hospital has selected to use Direct for the exchange rather than send the patient with printed

records or send the records by courier. The Hospital wishes to send structured data, including a care summary, to the specialist before the patient visit using Direct. Oak Valley Hospital is not currently served by an HIE and therefore needs a HISP to serve as information broker for the exchange of secure clinical patient information.

The referring Doctor at Oak Valley, using their HISP account, queries the federated CTEN Directory Services for the specialist by searching for an individual by the last name and includes the specialty and known street address to narrow the search. From the names returned, the Doctor verifies that one is associated with the expected clinic, and retrieves the Direct address for the specialist at that location. The Doctor then collects the relevant clinical data, attaches it to a Direct message with a personal note describing the reason for the referral, and sends the message. The HISP verifies receipt, ensuring timely and accurate delivery and allowing the referral to be received quickly and with minimal time expenditure.

3.   Goals and Objectives of the Demonstration

Please provide a brief description of the goals and objectives of the demonstration, emphasizing what you expect your audience to learn. Be sure to indicate how your demonstration aligns with the objectives and guidelines found in the California Connects Demonstration Charter at http://www.ca-hie.org/projects/california-connects-2014/charter.

Direct is an increasingly integral part of California's HIE ecosystem and Direct address discovery is vital to wide adoption and use of the standard. As the CTEN statewide federated directory grows in scope, polished and easy to use interfaces will be key to driving provider participation. A smooth, quick search-discovery-delivery cycle will demonstrate how use of Direct and a provider directory can improve workflow, not slow it down.

4.   Participant Information

4.1.   Primary Organization

Name of the organization   RAIN Live Oak HIE and Telemedicine Network

Role in the demonstration   HISP for Direct. Serving as Interoperability Broker for participants in the demonstration. (Oak Valley Hospital District and RAIN HIE).

4.2.   Supporting Organization(s)

Name of the organization   _____

Role in the demonstration   _____

Feel free to add more additional lines for other supporting organizations as necessary.

4.3.   Demonstration Sponsor(s)

Name of the organization   _____

Role in the demonstration   _____

Feel free to add more additional lines for other sponsoring organizations as necessary.

5.   Technical Information
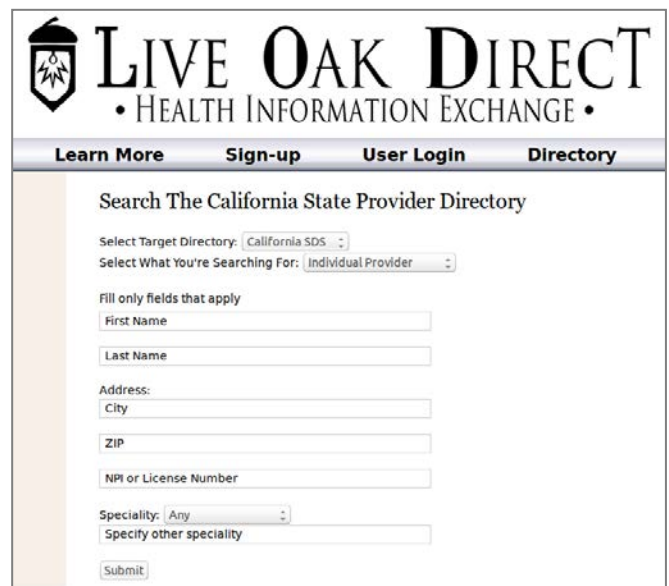
5.1.   Business Workflow

Please provide a description of the business workflow for the user story, showing the various actors and systems involved in the health information exchange. A diagram may be used.

A participating provider accesses the federated Directory Service through a secure web portal. This portal connects to a local directory node and to the statewide Directory Service to retrieve directory listings from participant systems using mutual TLS authentication. Results are displayed in the provider's web browser.

The Direct service is accessed through a TLS-secured client with user authentication. Messages are processed by the RAIN Live Oak servers through a Direct interface that handles certificate discovery, encryption and tracking of delivery verification. Certificates are validated as belonging to a trusted organization or individual by checking their chain of trust against trust anchor certificates in the CTEN Direct Trust Bundle.
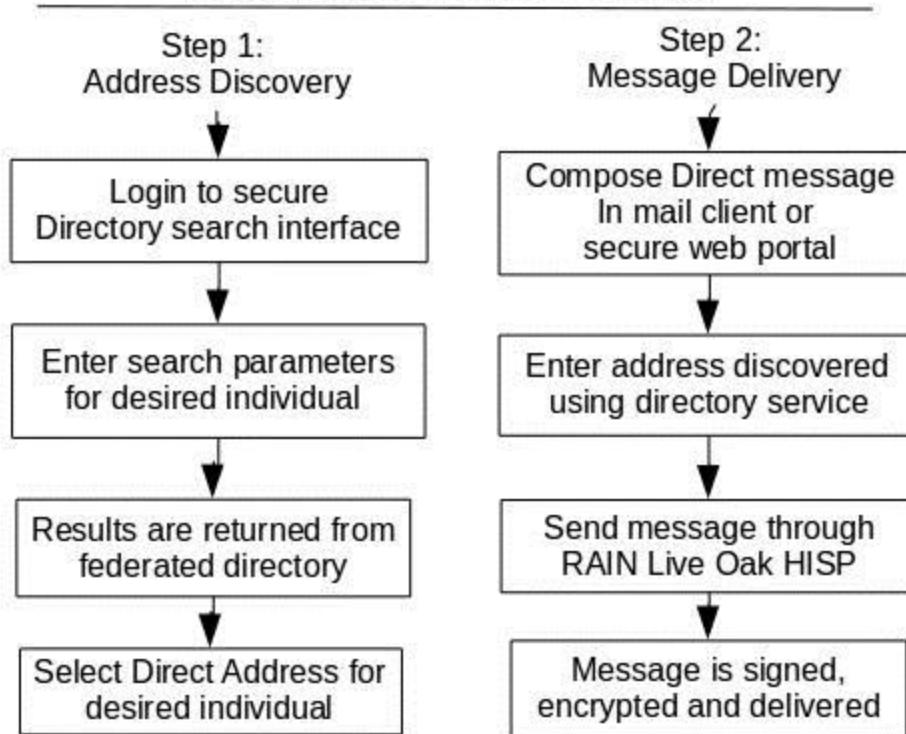
The CTEN Direct Trust Bundle is automatically queried and downloaded to retrieve new and/or updated certificates for use by RAIN Live Oak. The Bundle is hosted by CTEN, who also manages addition and removal of certificates, and is automatically processed by the RAIN Live Oak system to import new certificates for use during secure transmission.

Responses and receipts are received using the same standards and are accessible to the user through a secure mail client.

RAIN Live Oak Directory & Direct Transmission Workflow

Step 1: Address Discovery	Step 2: Message Delivery
Login to secure Directory search interface	Compose Direct message In mail client or secure web portal
Enter search parameters for desired individual	Enter address discovered using directory service
Results are returned from federated directory	Send message through RAIN Live Oak HISP
Select Direct Address for desired individual	Message is signed, encrypted and delivered

5.2. Technical Standards

Please provide a brief discussion of the technical transport and content standards used in the demonstration. Include security, authentication and authorization standards as necessary. Please review http://www.ca-hie.org/projects/california-connects-2014/charter for the technical priorities for California Connects 2014.

This demonstration will illustrate the use of HPD (IHE IT Infrastructure Framework Supplement, Healthcare Provider Directory (HPD) Trial Implementation Rev 1.4) for address discovery as part of a statewide federated infrastructure, employing mutual TLS for authentication and encryption. The web connection to the search interface will also be TLS encrypted and password protected, limiting use to HISP members.

The Direct specification in the Applicability Statement for Secure Health Transport v1.1 will be demonstrated for document delivery, employing SMTP, S/MIME and IMAP secured using SSL/TLS and X.509 certificates with DNS discovery.

The Implementation Guide for Direct Project Trust Bundle Distribution v1.0 proposed by ONC as part of the Direct Project working group will be demonstrated to retrieve trust bundles, employing simple GET operations over HTTPS, and signed PKCS7 bundles of X.509 certificates.

6. Maturity of the Demonstrated Technologies

Please describe the maturity of the technologies highlighted in your demonstration, and when they might be available for use, and what barriers there are to reducing them to practice, if any. Technologies in the demonstration might be emerging and experimental, under development and soon to be available, or commercially available now.

RAIN Live Oak is an active participant in the development of a California statewide federated directory, including developing open-source deployments of a directory and web-based search interface.

RAIN Live Oak's Direct service is fully mature and currently serving healthcare providers in multiple states with HIPAA compliant messaging and document delivery services.

RAIN is active with the LDAP Controls Exploration taskforce, CAHIE, and a participant in the California Trust Framework Pilot.