eHealth Vendor Workgroup: Transitions of Care

March 20, 2014

12:00 PM ET

Topics / Agenda

- ToC Measure / CEHRT Review

- Direct: Edge Protocols
  - Transaction counting / delivery notifications

- MU2 ToC Connect-A-Thon Results

- A few other FAQs…

- Q&A

Meaningful Use

- For Meaningful Use Stage 2, the ToC objective includes 3 measures:

  - Measure #1: requires that a provider send a summary care record for <u>more than 50%</u> of transitions of care and referrals.

  - Measure #2 requires that a provider electronically transmit a summary care record for <u>more than 10%</u> of transitions of care and referrals using CEHRT or eHealth Exchange participant

  - Measure #3 requires at least one summary care record electronically transmitted to recipient with different EHR vendor or to CMS test EHR

2014 Edition Certification

- Two 2014 Edition EHR certification criteria

  - 170.314(b)(1) : Transitions of care—receive, display, and incorporate transition of care/referral summaries.

  - 170.314(b)(2) : Transitions of care—create and transmit transition of care/referral summaries.

ToC Measure #2

- The eligible provider, eligible hospital or CAH that transitions or refers their patient to another setting of care or provider of care provides a summary of care record for more than 10% of such transitions and referrals either:
  - (a) electronically transmitted using CEHRT to a recipient; or

  - (b) where the recipient receives the summary of care record via exchange facilitated by an organization that is a **eHealth** Exchange participant ~~or in a manner that is consistent with the governance mechanism ONC establishes for the nationwide health information network.~~

170.314(b)(2)

- Transitions of care—create and transmit transition of care/referral summaries.

  - (i) Enable a user to electronically create a transition of care/referral summary formatted according to the Consolidated CDA with, at a minimum, the data specified by CMS for meaningful use.

  - (ii) Enable a user to electronically transmit CCDA in accordance with:
    - "Direct" (required)
    - "Direct" + XDR/XDM (optional, not alternative)
    - SOAP + XDR/XDM (optional, not alternative)

Direct: Edge Protocol Implementation Guide

Direct: Backbone Protocol

Edge Protocol (Encrypted)

Direct (Encrypted SMTP)

Edge Protocol (Encrypted)

Provider A

HISP A

HISP B

Provider B
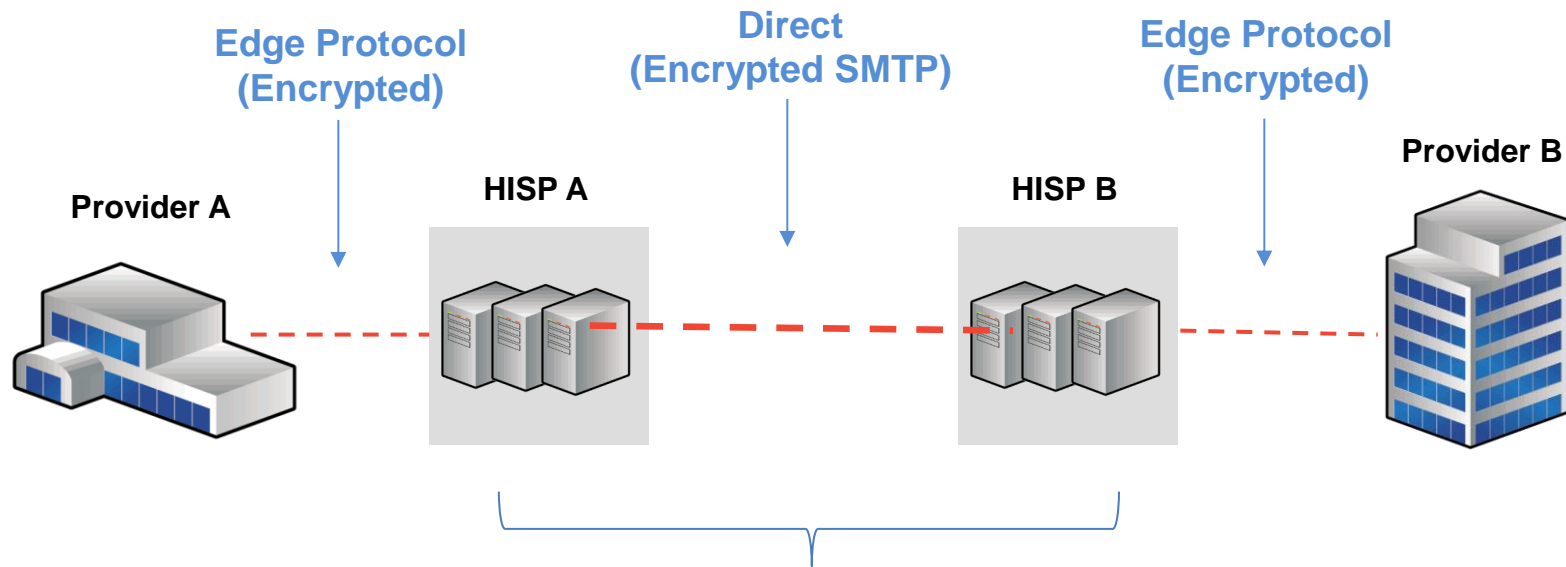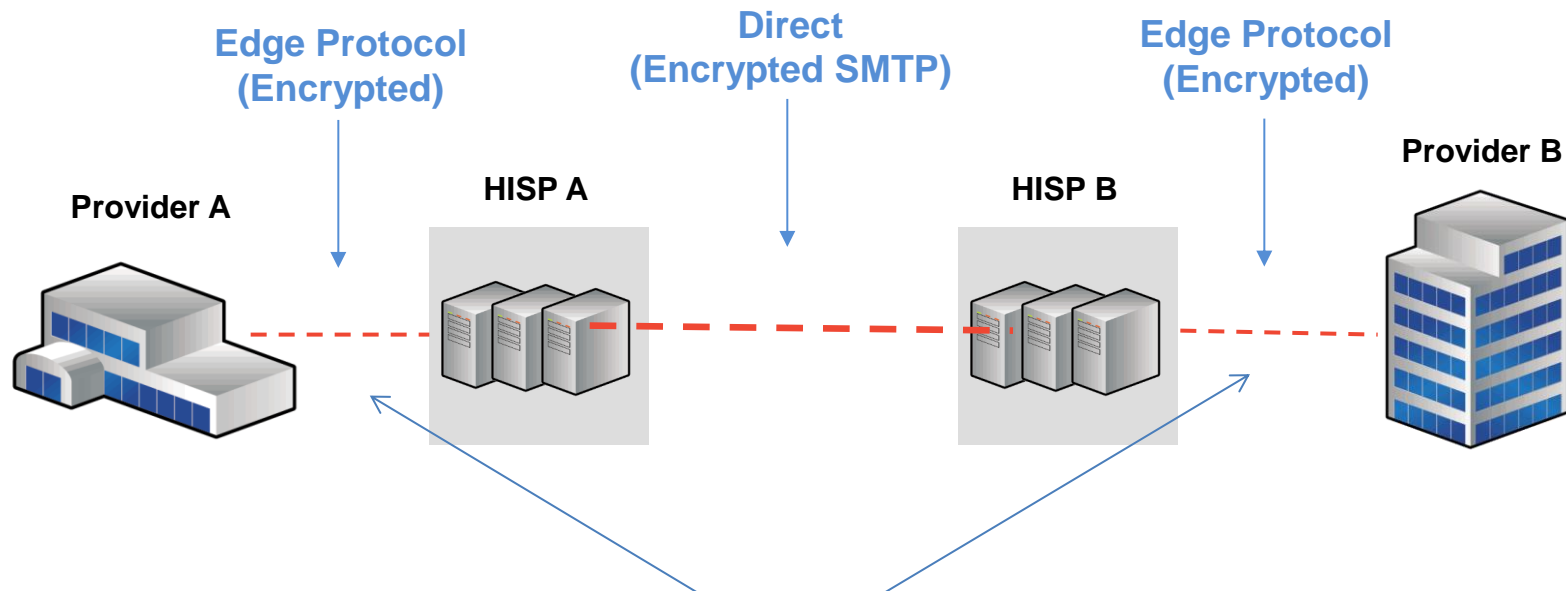
The *Applicability Statement for Secure Health Transport* (Direct) addresses exchange between two security/trust agents (which are commonly implemented by organizations called HISPs)
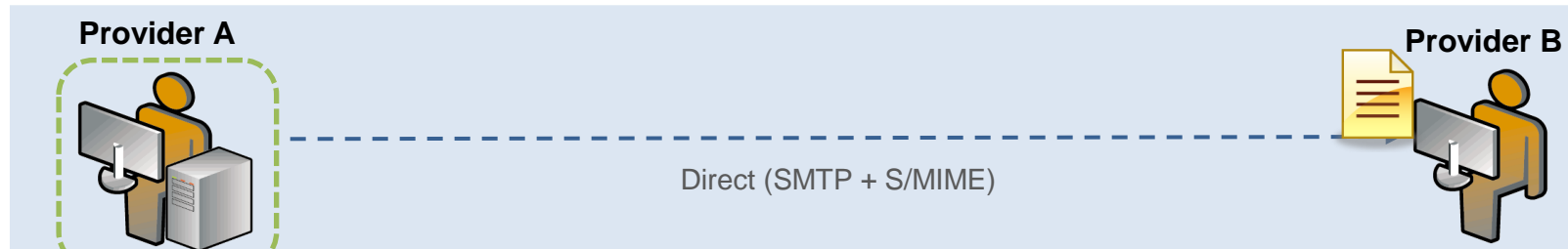
Direct and Edge Protocols

Edge Protocol (Encrypted)

Direct (Encrypted SMTP)

Edge Protocol (Encrypted)

Provider A

HISP A

HISP B

Provider B

The Direct standard (*Applicability Statement*) does not specify how edge systems must or should interface with HISPs.

2014 CEHRT / MU2 Implications: Using Direct for ToC
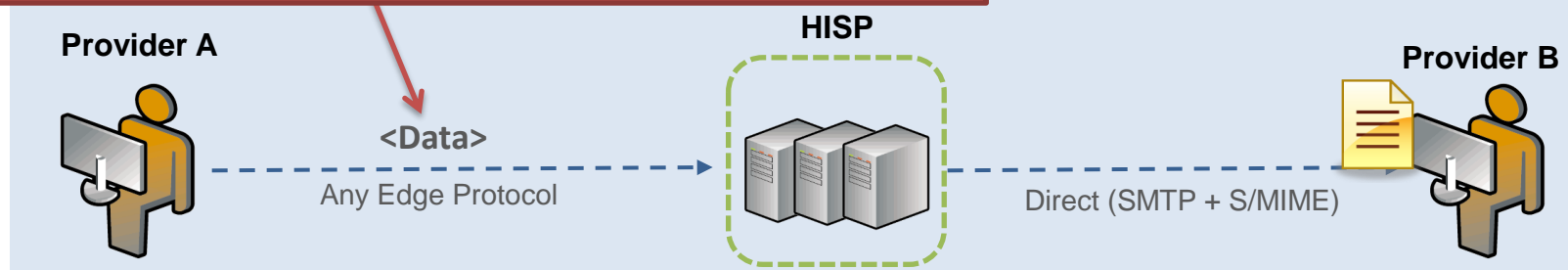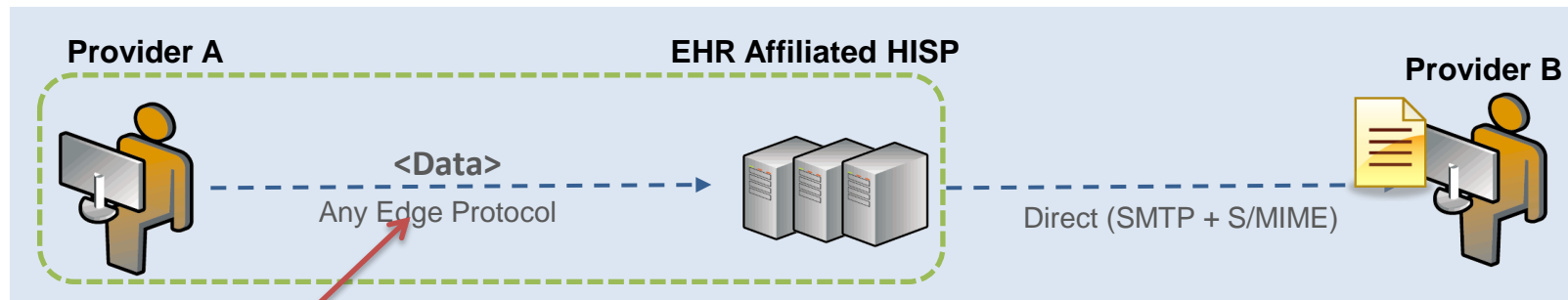
Example 1

Provider A — Direct (SMTP + S/MIME) — Provider B

EHR connecting to an independently certified HISP/HIE

Example 2

Provider A — <Data> / Any Edge Protocol — HISP — Direct (SMTP + S/MIME) — Provider B

Example 3

Provider A — <Data> / Any Edge Protocol — EHR Affiliated HISP — Direct (SMTP + S/MIME) — Provider B

EHRs/HISPs seeking paired certification

– – – Represents Certified EHR Technology or "CEHRT"

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EHRs seeking to use SOAP/XDR+XDM as a Direct "Edge" Protocol

Example 2

1. EHR generates CCDA
2. EHR (certified to include optional SOAP + XDR/XDM transport) sends message to Provider B (via HISP) using SOAP + XD
3. HISP/HIE repackages content and sends to Provider B

Provider A

HISP/HIE

Provider B

SOAP +

XDR/XDM

CEHRT

- Meaningful Use adopts objectives where CEHRT needs to account for the successful delivery of transition of care transactions from the source to the destination.

- At scale, manual tracking / counting isn't really practical for providers.

- Automation is preferred by vendors and providers.

- However, the gap in implementation guidance for many edge protocols has resulted in EHR and HISP vendors adopting custom, one-off approaches to requesting and delivering standard communications, such as processed message disposition notifications (MDNs), between their respective systems. This is inefficient and undesirable.

Direct Project Edge Protocol Implementation Guide Workgroup

- These issues were raised during the Direct 2.0 Boot Camp in August

- Community agreed to establish a workgroup to examine these issues and develop an IG to standardize some edge protocols that could be widely deployed by EHR and HIE/HISP vendors.

- Workgroup objectives include:
  - Clarifying any implementation details for common edge protocols to ensure ubiquitous send/receive interoperability between edge clients (EHRs) and Direct STAs (HISPs)
  - Providing implementation guidance to ensure edge clients receive necessary acknowledgements to ease transaction counting (for MU2)

Direct Project Edge Protocol IG: Selected Edges

- The workgroup agreed to focus on these edge protocols:
  - SOAP / IHE XDR, conformant to *XDR and XDM for Direct Messaging*
  - SMTP / IMAP4 / POP3

- The goal of the Edge Protocol IG was to provide some standardized, simple means for connecting EHRs with HISPs; not excluding other approaches that might be of equal or greater value to some
  - http://wiki.directproject.org/file/view/Implementation+Guide+for+Direct+Edge+Protocols+v1.0.pdf

- Conformance to the Edge Protocol IG is not required for MU2 / 2014 CEHRT; however, it may prove useful to vendors and providers.

The Direct Project provides two mechanisms for tracking message delivery between STAs:

1. **'Processed' MDNs** – on successful receipt and trust verification of a message, Destination STAs send Message Disposition Notification (MDN) messages with a "processed" status to the Source STA. While sufficient for transaction counting purposes, the *Applicability Statement* provides minimal guidance regarding how processed MDNs should be handled once received by the Source STA and does not require the Source STA to convey processed MDNs back to the sending system.

2. ***Implementation Guide for Delivery Notification in Direct v1.0*** – To overcome the limitations of "processed" MDNs, this guide provides guidance enabling STAs to provide a high level of assurance that a message has arrived at its destination and outlines the various exception flows that result in compromised message delivery and the mitigation actions that should be taken by STAs to provide success and failure notifications to the sending system.

Direct Project Edge Protocol IG: SMTP and Notifications

- For 'processed' MDNs:
  - Edge system includes Disposition-Notification-Options message header with a special parameter (X-DIRECT-DELIVER-PROCESSED-MDN)
  - This alerts HISP to return any associated processed MDNs to the edge system

- For enhanced delivery notification:
  - Edge system requests support via a similar header, as specified in the *Implementation Guide for Delivery Notification in Direct v1.0*
  - This alerts HISP to base delivery notification success/failure on the *Delivery Notification* guide, and the HISP will return associated positive/negative delivery notifications to the edge system accordingly

- Which one to utilize?
  - Recommendation is to use whichever mechanism meets the minimum delivery notification requirements for your use case.
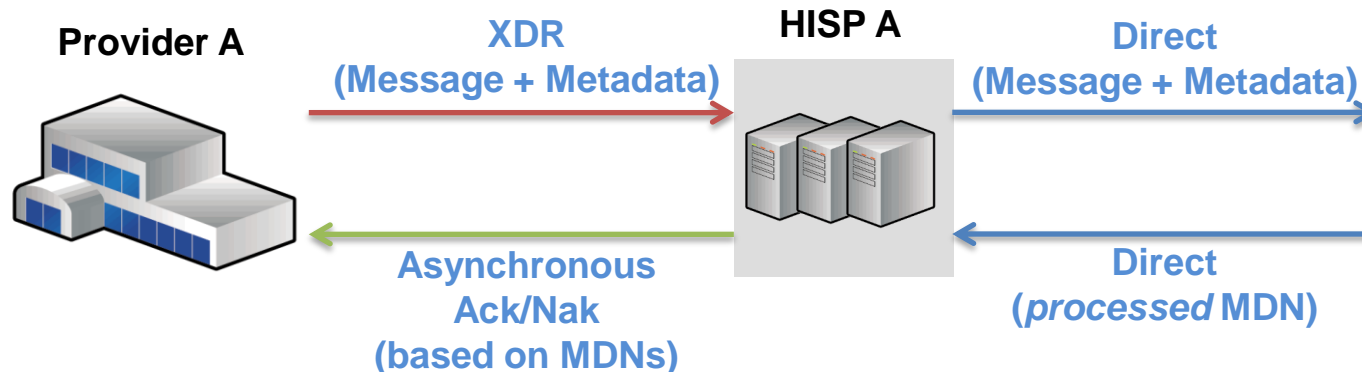
- IMAP4 and POP3 can be used as alternatives to SMTP for message and notification delivery (i.e., as mechanisms for the HISP to convey messages and notifications to the edge system)

- Since IMAP4 and POP3 are vehicles for receiving messages, the edge system would still use SMTP to send messages and to request delivery of processed MDNs and enhanced delivery notifications

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- For both processed MDNs and enhanced delivery notifications: utilize WS-ReliableMessaging to request / deliver delivery notifications
  - Parameters similar to those used by SMTP for processed MDNs and enhanced delivery notifications

- Example using 'processed' MDNs:

Provider A **HISP A**

XDR
(Message + Metadata)

Direct
(Message + Metadata)

Asynchronous
Ack/Nak
(based on MDNs)

Direct
(*processed* MDN)

Meaningful Use Stage 2 Transitions of Care (ToC) Connect-a-thon

- Connect-a-thon held February 4-5, 2014 in Alexandria, VA

- 8 EHR and 5 HISP vendors participated:
  - EHRs: Allscripts, Cerner, Dynamic Health IT, Epic, GE, Medflow, Meditech, and NextGen
  - HISPs: CareEvolution, DataMotion, MaxMD, Medicity, MedAllies

- Goal: addressing "real world" issues beyond certification via end-to-end testing

- Generally these issues aren't "major" ones, but they still cause exchange/interoperability to break down.

1. Nearly all the EHR vendors and HISPs were able to successfully exchange CCDA documents via Direct, even when the EHR vendor did not certify with the HISP.

2. Most EHR vendors were willing and able to be "HISP agnostic" (i.e., work with a variety of HISPs, even if they did not certify with them or had not exchanged via their services previously), using their optional SOAP+XDR/XDM transport as an "edge" protocol to these HISPs.

3. Establishing trust between participating EHRs/HISPs was not as difficult as it has been in past demonstrations and connect-a-thon events because a common trust bundle was used.

4. Direct-only implementers had some difficulty handling content packages (zip files containing CCDAs) from XDM implementations. In particular, the Direct-only implementers struggled to extract the CCDA from within the inbound XDM package.

5. Many EHR vendors are not allowing end users to use Direct as a general transport tool, but are instead building it into their systems as a "care summary only" transport. This includes an inability to handle other file types in payloads.

6. Many EHR vendors do not provide good visibility into transaction status for clinicians (e.g., no notification of failure to receive an MDN).

Next steps

- Participants found the in-person format highly effective and the event very useful

- Participants would also like to test additional functionality, such as new Edge Protocol IG, in the future.

- ONC plans to host subsequent MU2-related connect-a-thon events – stay tuned for details and invitations.

A few other FAQs…

Putting the I in Health IT
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- Vendors/providers have increasingly been asking about the need to participant in a formal trust community, such as DirectTrust.

- Such programs / accreditations are not required to make transactions "valid" for the purpose of MU2 ToC attestation.

- However, participation in a trust community would likely make it easier for a provider to reach their peers using different HISPs. Thus, ONC encourages vendors/providers to participate in relevant trust communities.
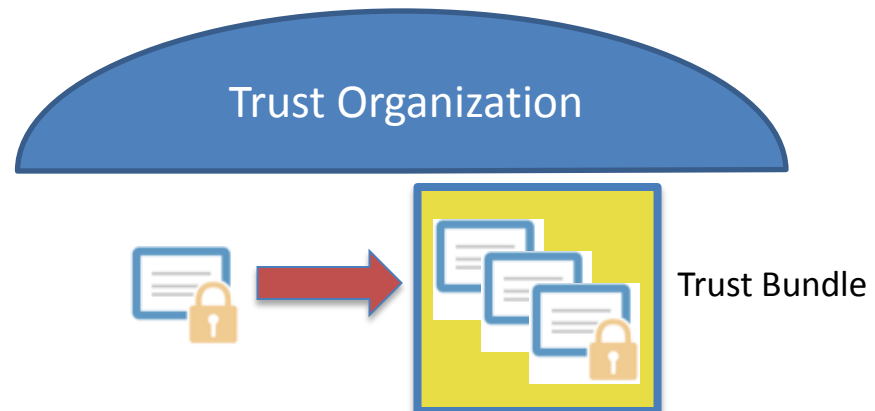
Trust Communities & Trust Bundles

1) Prospective members fulfill Trust Community requirements to join.

HISP

| Federated Trust Agreement |
| Certification/Accreditation |
| Standards & Policies |

Trust Organization
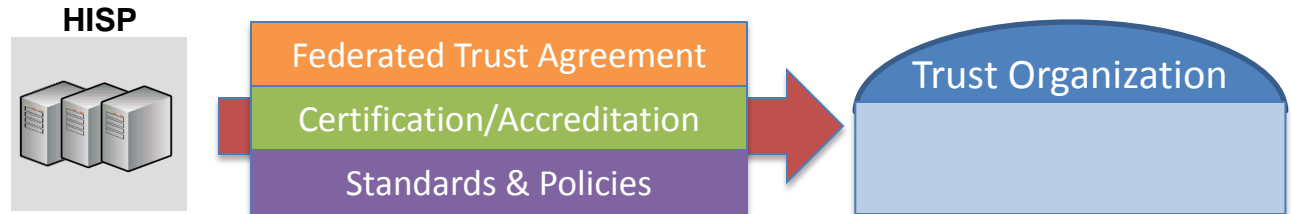
2) New members supply their trust anchors to the Trust Organization as they enter the Community.

Trust Organization

HISP
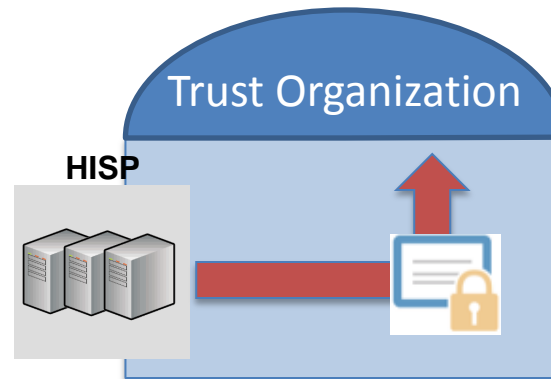
3) Based on the particular requirements met, the Organization adds these trust anchors to one or more collections it maintains, called **Trust Bundles**.

Trust Organization

Trust Bundle

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Trust Communities & Trust Bundles
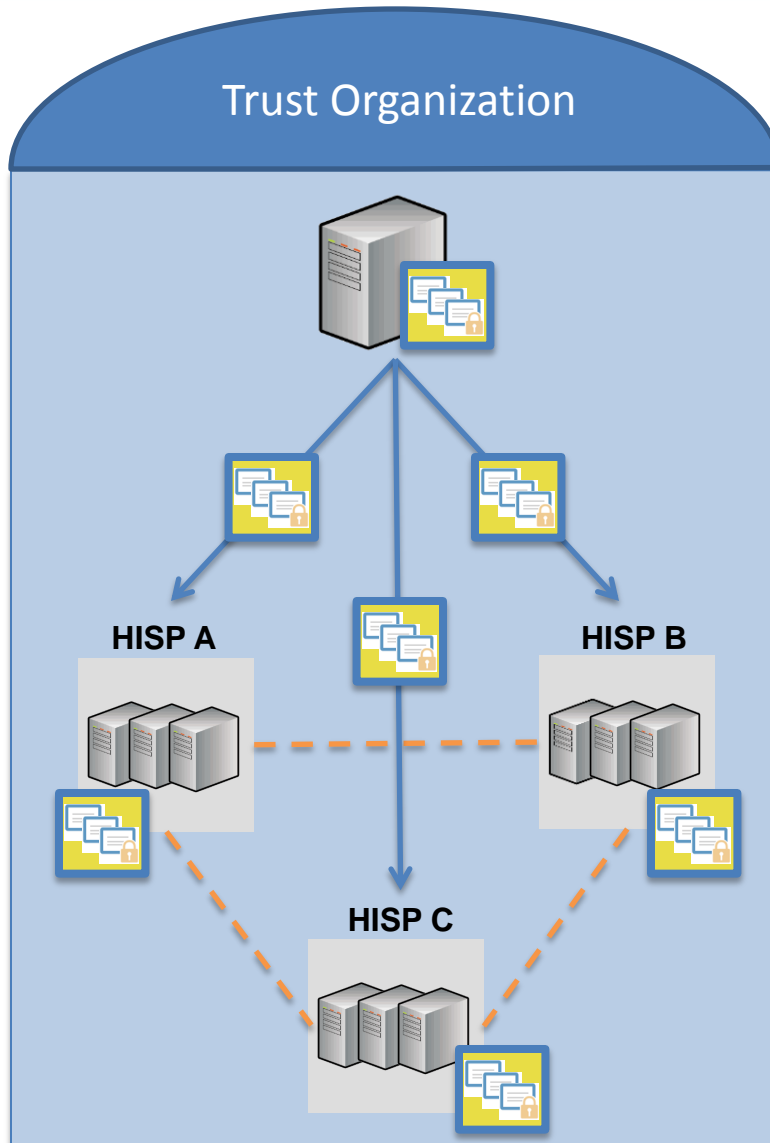
4) Trust Organization publishes Trust Bundles to Community web server.

5) Community members pull down Trust Bundles periodically at regular intervals.

6) A particular Trust Bundle contains the trust anchors of all the members of the Community that have met certain requirements. By configuring their Direct Security/Trust Agents (STAs) to trust the anchors in a Bundle, Community members can successfully communicate with all other members within that Bundle.

- To be considered an eHealth Exchange Participant, an organization must be on this list:

  - http://healthewayinc.org/index.php/exchange/participants

- For transactions using this transport option to count for ToC, the eHealth Exchange Participant must be on this published list during the provider's attestation period.

- Test needs to be done by providers' production system – that means the CCDA needs to be generated and transmitted by the provider's CEHRT

- Should use fake patient data for the test
  - This implies that vendors need to figure out how to allow providers to generate and transmit a CCDA from within their CEHRT with fake patient data easily

- Attaching a CCDA generated by and/or obtained from some other source (i.e., one not created within the provider's CEHRT) to a Direct message is not sufficient.

- "Discharge to home"

- Specialists and "closing the loop" (consult summaries)

Q&A