NHIN Direct Project
Implementation Group Meeting

May 18, 2010
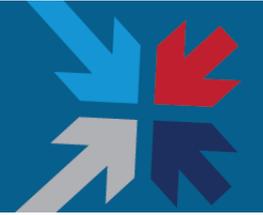
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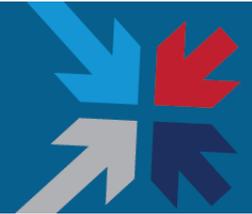Nationwide Health
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Agenda
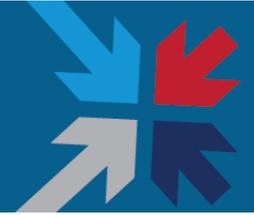
» Reminders

» WG Updates

» Calendar & Participation

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Reminders

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What is the NHIN Direct Project?

A project to create the set of **standards** and **services** that with a **policy** framework enable simple, directed, routed, scalable transport over the Internet to be used for secure and meaningful exchange between known participants in support of meaningful use
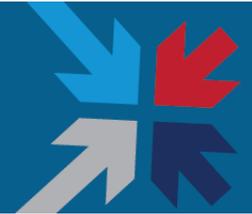
- Services
- Standards
- Policies
- Trust Fabric

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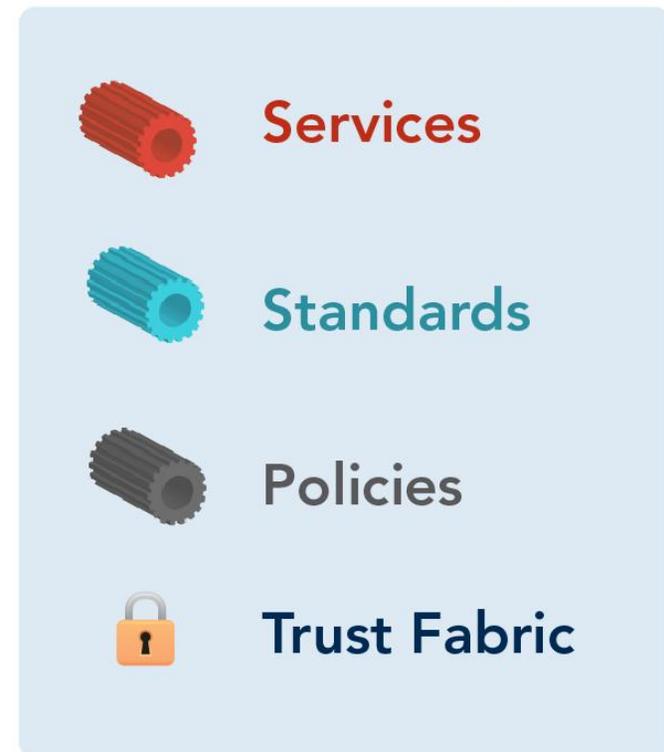
Review of Work Groups
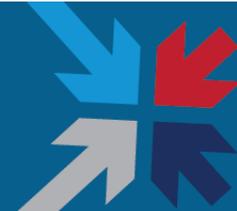
» **User Story Review WG:** Provide consistent, vetted set of user stories available on the Wiki

» **Concrete Implementation WG:** Recommend a high level concrete implementation or set of concrete implementations mapping to the abstract model and meeting all Must User Stories

» **Content Packaging WG**: Define a few workable alternatives, with pros/cons, for content packaging

» **Security & Trust WG:** Provide alternatives and highlight issues relating to security and trust enablement via technology (e.g., certificates and signatures)

» **Comprehensive HIE Interoperability WG:** Define how to mix and match direct transactions and Comprehensive HIE/NHIN specifications and services (patient discovery and information access) capabilities at scale

» **Individual Involvement WG:** Clarify technology issues and policy implications for individual involvement in direct transport

» **Implementation Geographies WG:** Provide a powerful demonstration of cross-state, cross organizational continuity of care

» **Addressing & Directories WG:** Define an implementation neutral mechanism for addressing that enables provider/individual identification and enabling organization routing and also identify an directories specification

» **Abstract Model Review WG**: Review and finalize a formal abstract model that all WGs can use to define common vocabulary

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Review of Timeline

Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	...

5/6 — 6/10 — 7/27 — TBD

First Draft Specifications:
- Key User Stories
- Content Container Spec
- Security & Trust Spec
- Comprehensive HIE Service Descrp.
- Individual Involvement Service Descrp.
- Addressing Spec
- Abstract Model
- Edge Spec
- Deliverable: HISP-HISP & Source/Destination-HISP Service Description

- **2nd Draft Specs**
- June
    - Early Ref Implementation
    - Core Specifications and Service Descriptions
    - Interaction Model/Service Orchestration Model
- July
    - Ref Implementation
    - Testing Framework
    - Conformance Testing Scripts and Conformance Service
    - Ref Implementation Guides

- Ops/prod Draft Cert.
- Conformance Testing
- Core Messaging
- Policy Recommendation
- Process Recommendations

Weekly teleconferences

⭐ Face to face meetings

★ We Are Here

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# Review of Deliverables for June 10-11th Face-to-Face
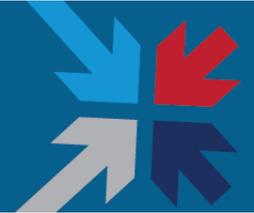
6/10 Key Deliverables

» **HISP-HISP (Backbone) and Source/Destination-HISP (Edge)Specifications:** The Concrete Implementation WG will provide specifications for HISP-HISP (backbone) and Source/Destination-HISP

» **Interaction Model/Service Orchestration Model:** The Abstract Model WG and the Concrete Implementation WG will provide Interaction Model and Service Orchestration Model for:1) REST Implementation 2) SMTP Implementation 3) IHE Implementation

» **Updated Abstract Model:** The Abstract Model WG will provide an updated diagram and specification of an Abstract Model that all WGs can use to determine core architectural components, assumptions and terminology

» **Comprehensive HIE Service Description:** The Comprehensive HIE WG will provide Service Description of how to mix and match direct transactions and Comprehensive HIE/NHIN specifications and services capabilities at scale

» **Updated Key User Stories**: The User Story WG will provide a consistent, vetted set of User Stories

» **Content Container Specifications:** The Content Packaging WG will define a few workable alternatives for content packaging so that patient data of mixed types can be packaged and sent

» **Updated Individual Involvement Recommendations:** The Individual Involvement WG will provide recommendations of how individuals can participate in NHIN Direct Project Services

» **Security & Trust Specifications:** The Security & Trust WG will provide alternatives and issue relating to security and trust enablement via technology

Non-Key 6/10 Deliverables

» **Update on the Directory Specification:** The Addressing & Directories WG will provide a Directory Specification on how to effectively use directories

» **Key Implementation Geographies:** The Implementation Geographies WG will finalize a set of key geographies for early real-world implementation

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Deliverables span specifications to policy
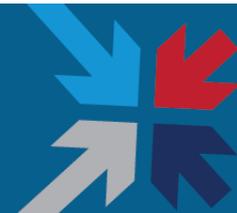
Specifications & service descriptions including

» Formalized models

» Core specifications and service descriptions

» Conformance testing scripts and conformance service

» Reference implementation guides for edge systems and routing systems (including sample code, testing and conformance documentation, legal and policy documentation, etc...)

  • Implementation guide for CONNECT users

Process recommendations

» Use of NHIN Direct Projects a model (positive or negative)
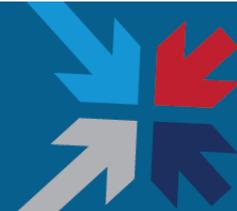» Formalized modeling process recommendations

Policy recommendations

» Recommendations on Federal role, states, etc...
» Policy recommendations for trust enablement

Marketing/awareness

» Core messaging
» Placements in industry journals, key social media outlets, etc...

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Review of Participation

» Use the Q&A text box function in the web conference to ask a question, or to signal an intent to speak

» **To type a question**, please type questions into the Q&A text box and click [Ask]

» **To vocalize a question**, please use the "raise your hand" function found in the upper right hand corner:
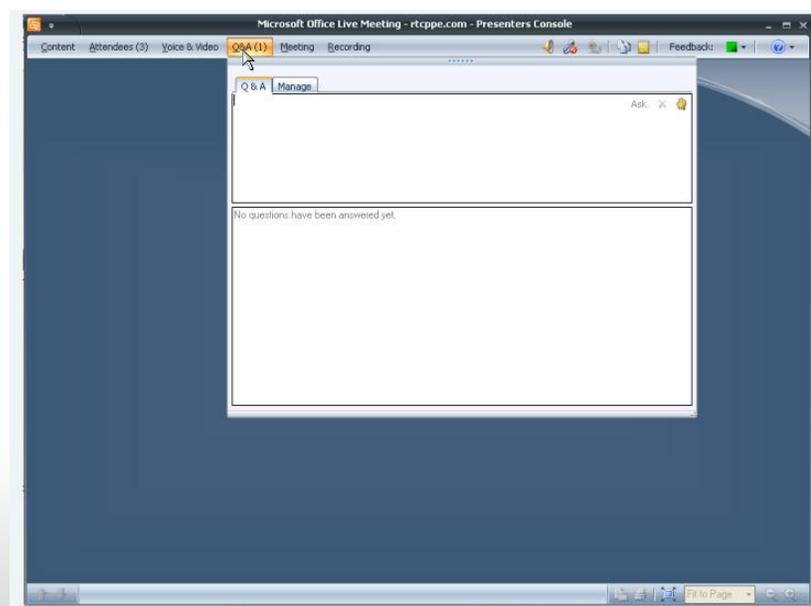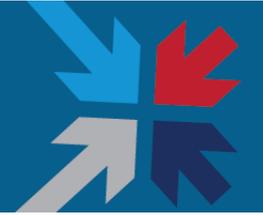
NHIN Direct Project Status

User Story Review Workgroup
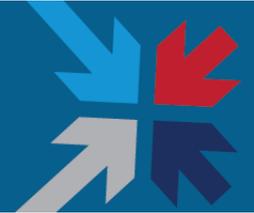
» Purpose is to provide consistent, vetted set of user stories available on the Wiki

» Key June 10th Deliverable: Updated Key User Stories

» Leader: Peter DeVault

» To date WG has:

• Developed and reached consensus about a set of Use Stories broken down by priority (1, 2 & 3) presented at the June 6th meeting.

• This week, the WG set action items to:

• Communicate with the Comprehensive HIE WG to formalize user stories that speak to the overlap between NHIN Direct and NHIN Exchange

Content Packaging Workgroup
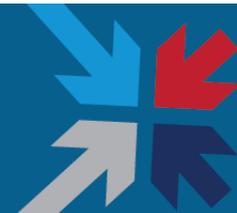
» Purpose is to define a few workable alternatives, with pros/cons, for content packaging

» Key June 10th Deliverable: Content Container Specifications

» Leader: David McCallie

» To date WG has:

  • Created a draft proposal

    – http://nhindirect.org/Content+Container+Specification

 • Continued conversation about the Content Container Specification & provided updates

Content Packaging Workgroup
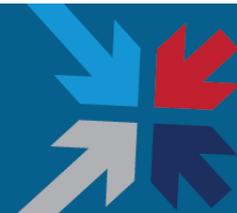
Last week, the WG:

» Agreed that detailed decisions about how best to use MIME encoding may depend on the specific concrete implementation that is selected. We will need to keep in synch with the concrete implementation groups.

» Discussed in some detail the issues involved in mapping between a traditional email-like message and an XDR message

- Key question is how to handle the "patient information" data. XDR assumes the use of more complex metadata than RFC2822

- One option is to define a simple subset of XDR data for the "routing" header, and to put the rest of the metadata inside an encoded XDM object, embedded in the message body.

- Can we define a 'gateway' that can perform these mappings? This lead to a discussion over whether or not the HISP would have access to the embedded metadata (or would it be blocked by encryption of the payload?)

» Discussed the highly divergent types of practice settings which would benefit from using NHIN-Direct. There was general agreement that we should define a "glide path" that allowed for use of simple and widely available messaging approaches (that smaller practice settings could quickly leverage) onward to more comprehensive message header and content models (that more established practice settings could leverage via comprehensive EHR technologies.)

» This means that we should not require the presence of a community MPI at initial stages of deployment, etc.

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Security & Trust Workgroup
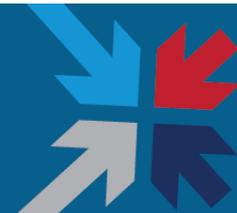
» Purpose is to provide alternatives and highlight issues relating to security and trust enablement via technology (e.g., certificates and signatures)

» Key June 10th Deliverable: Security & Trust Specification

» Leader: Jonathan Gershater

» To date WG has:
  • Created a Basic Trust Model, Keys for Consensus:
    – http://nhindirect.org/Basic+Trust+Model+-+Keys+for+Consensus

» This week, the WG set action items to:
  • Harmonize conversations on the Wiki and on calls
  • Read/comment on Sean Nolan's post on the challenges of multiple simultaneous trust circles and using TLS
  • Frame and elevate policy tradeoff for consumption by policy people
  • Set up a time to speak with Dixie Baker about Technology/Policy

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Comprehensive HIE Interoperability Workgroup
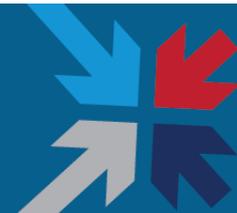
» Purpose is to define how to mix and match direct transactions and Comprehensive HIE/NHIN specifications and services (patient discovery and information access) capabilities at scale

» Key June 10th Deliverable: Comprehensive HIE Service Description

» Leader: Vassil Peytchev

» To date WG has:

- Created an mapping of the Abstract Model to IHE/NHIN transactions:

  – http://nhindirect.org/IHE+Implementation

» Last week, the WG set action items to:

- Improve the scenario for NHIN Direct and NHIN Exchange combined use

- Begin discussion in the wiki about Keith Boone's proposal to map minimal routing metadata to XDR metadata requirements
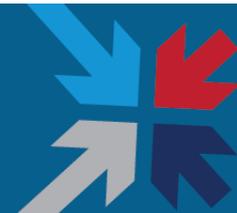
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# Comprehensive HIE Interoperability Workgroup
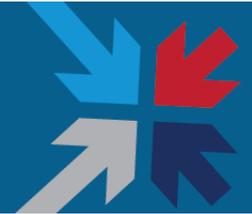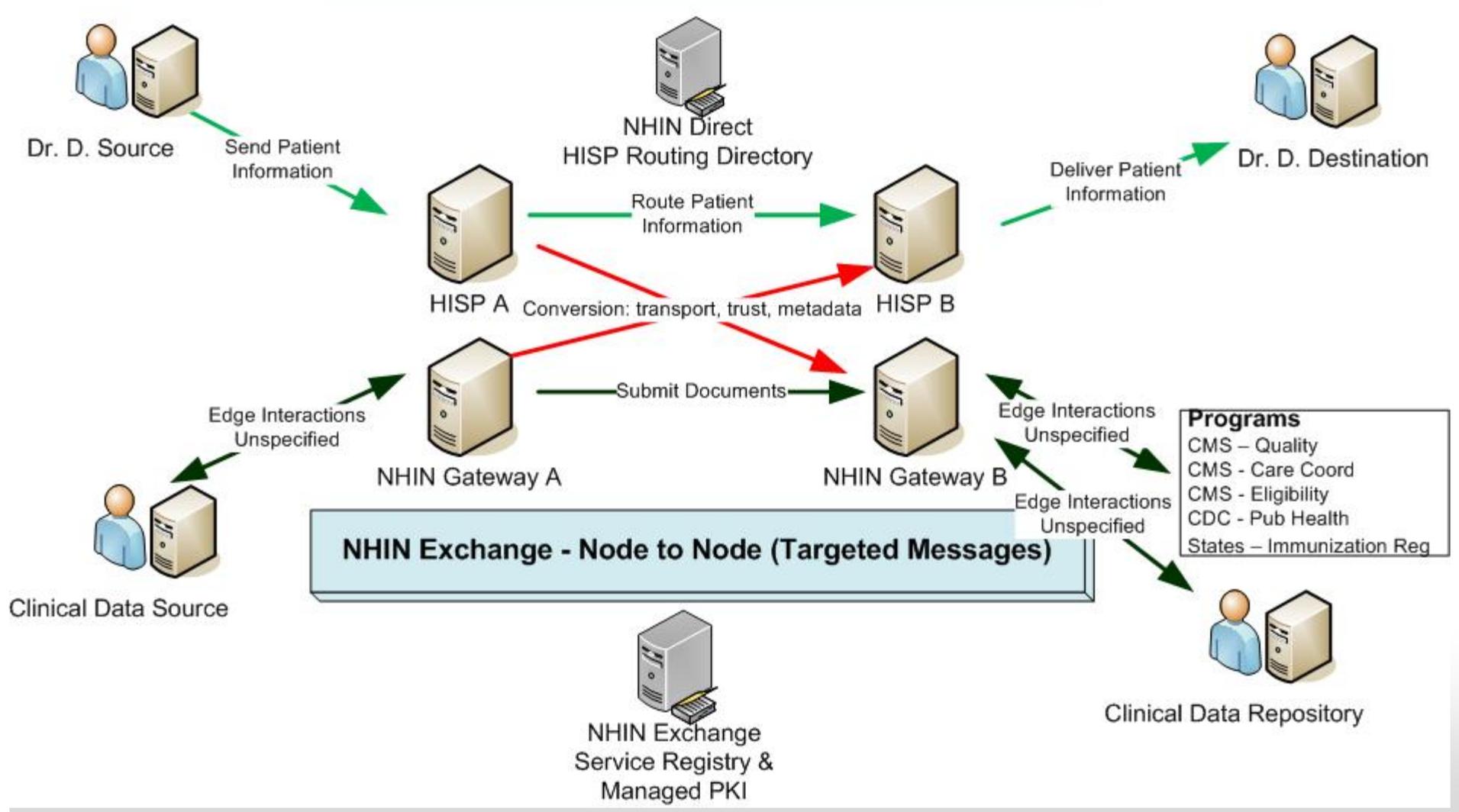
Individual Involvement Workgroup

» Purpose is to clarify technology issues and policy implications for individual involvement in direct transport

» Key June 10th Deliverable: Updated Individual Involvement Recommendations

» Leader: Richard Elmore

» To date WG has:

- Provided guidance to other workgroups around individual involvement
  - User Stories
  - Content Packing
  - Patient to Provider Considerations:
    - http://nhindirect.org/Patient+to+Provider+Issues+and+Implementation

» Last week, the WG set action items to:

- Reviewed "Patient to Provider" messages – Issues and Implementation http://nhindirect.org/Patient+to+Provider+Issues+and+Implementation

- Arranged a follow-up on "Patient to Provider" policy issues for later this week with Deven McGraw – HIT Policy Committee

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Addressing & Directories Workgroup
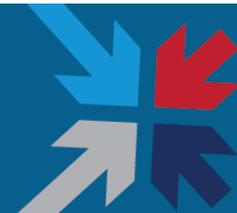
» Purpose is to define an implementation neutral mechanism for addressing that enables provider/individual identification and enabling organization routing

» Key June 10th Deliverable: Update on the Directory Specification

» Leader: Wes Rishel

» To date WG has:

- Proposed & reached consensus on the Addressing Specification:
  - http://nhindirect.org/Addressing+Specification

» Last week, the WG set action items to:

- Carry the issue of the Addressing/Directories WG to the NHIN Direct Policy Steering Committee
- Write & review a charter

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Abstract Model Workgroup
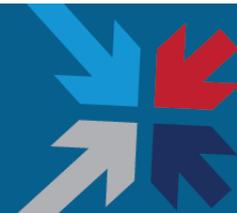
» Purpose is to review and finalize a formal abstract model that all WGs can use to define common vocabulary

» Key May 6th Deliverable: Updated Abstract Model & Interaction Model/Service Orchestration Model

» Leader: Brett Peterson

» To date WG has:

- Proposed & reached consensus on the NHIN Direct Project Abstract Model

  – http://nhindirect.org/NHIN+Direct+Abstract+Model

» Update:

- Abstract Model Workgroup weekly meetings have been cancelled and removed from the calendar.

- Future topics for the workgroup will be addressed by one-time meetings.

- If the volume of material builds again, a weekly meeting can be put back in place if necessary.

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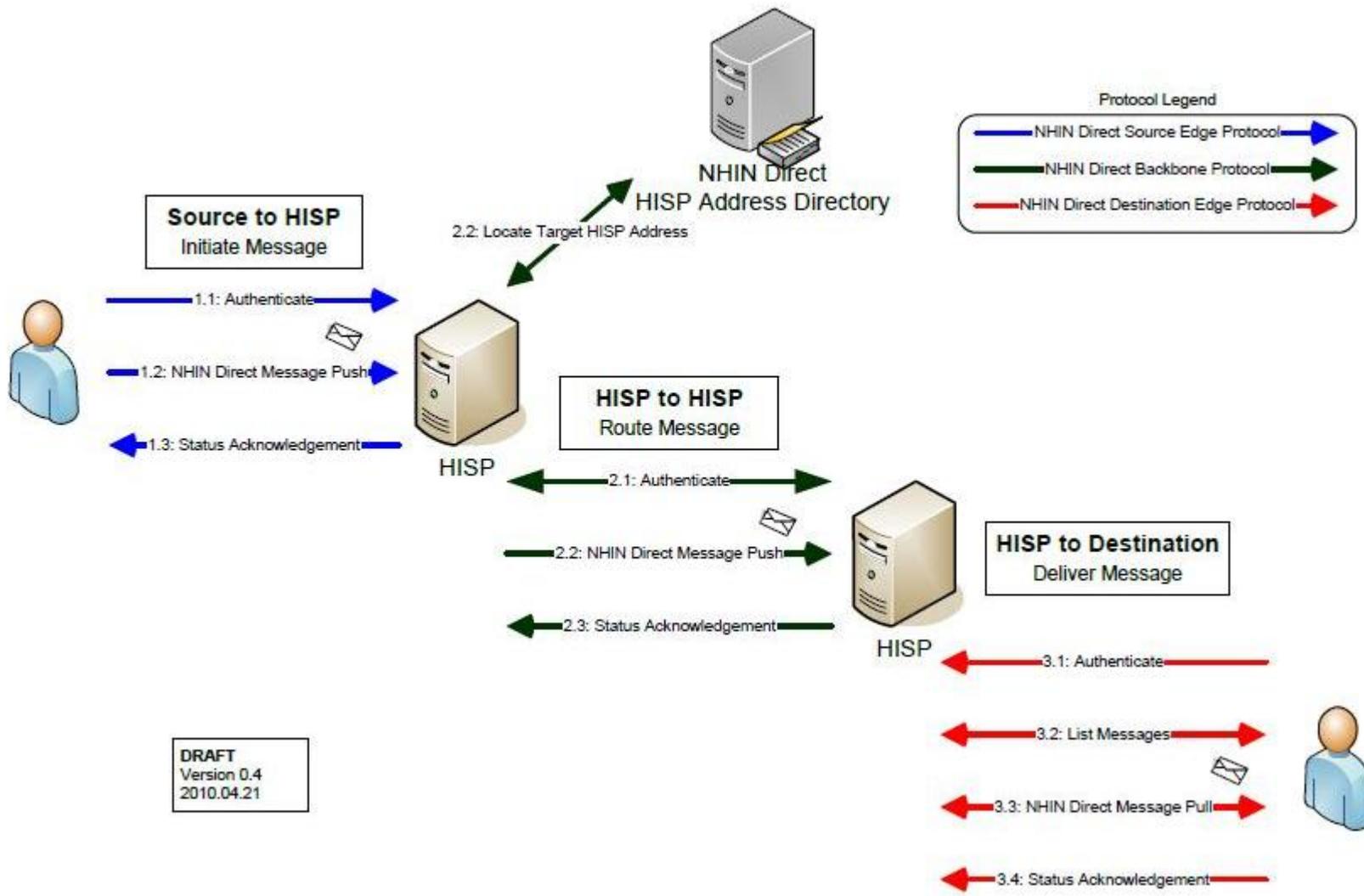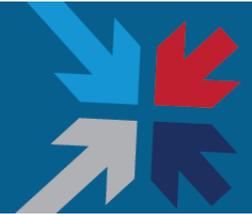
Abstract Model

Concrete Implementation Workgroup
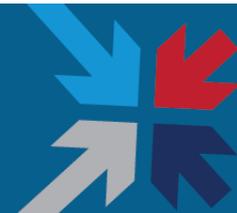
» Purpose is to recommend one+ high level concrete implementation mapping to the abstract model for further development and use in the pilots.

» Key June 10th Deliverable:

    » HISP-HISP (backbone) & Source/Destination-HISP Specifications and Reference Implementations

    » Interaction Model/Service Orchestration Model

» Leaders: Sean Nolan & Brian Behlendorf

» To date, the WG has:

    » Created four implementation groups (briefings on the next slides)

        – REST: http://nhindirect.org/REST+Implementation+Development+Team

        – SMTP: http://nhindirect.org/SMTP+Implementation+Development+Team

        – IHE / SOAP: http://nhindirect.org/IHE+Implementation+Development+Team

        – XMPP: http://nhindirect.org/XMPP+Implementation+Development+Team

» Last week, the WG set action items to:

    • Comment on the Implementation Capability Worksheet

    • Have a demo day on June 25th

Concrete Implementation Workgroup - REST
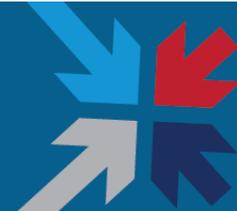
» REST: http://nhindirect.org/REST+Implementation+Development+Team
  - Two working REST implementations (one Java, one Ruby on Rails).
    – Status is feature complete for both with respect to a one HISP model.
    – Experimenting with different security models for HISP-HISP security, and both implementations provide slightly different approaches
  - Code:
    – RoR code has full working test cases, both internal integration, some unit, and an external client driver with full test tools.
    – Java code has some basic unit tests and a Python client driver.
    – Neither are production ready, but neither are throwaway code either -- both handle edge cases, implement security, etc.
    – Java code has multiple active committers. Rails code is an army of one...
  - Advantages are documented in recent mailing list post on the benefits of REST
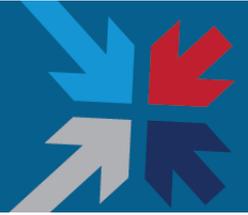
Concrete Implementation Workgroup - SMTP

» SMTP:
http://nhindirect.org/SMTP+Implementation+Development+Team
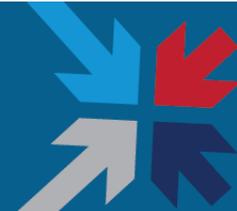
- Currently have an implementation of the security level working in .net and a Java version as well
- SMTP Gateway has been enabled and will be able to plug into existing mail clients
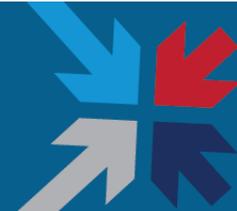
# Concrete Implementation Workgroup – IHE/SOAP

» IHE / SOAP:
http://nhindirect.org/IHE+Implementation+Development+Team

Concrete Implementation Workgroup -- XMPP

» XMPP: http://nhindirect.org/XMPP+Implementation+Development+Team
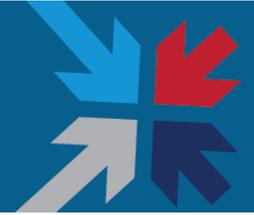» Documentation Status:
- 1. Updated the Software Map portion of the XMPP Implementation Development Team.
- 2. Gathering feedback on items to enhance the documentation on the XMPP Development Team page.
» Technical Implementation Status:
- 1. Working version of the code per the software map has been created.
- 2. Currently working on Content Specification implementation. (Converting custom message content to fit the MIME Format).
- 3. Need to work on TLS and Security specifications next.
- 4. Trying to resolve SVN Access to Google code to check-in software. (Having a little trouble with my tortoise client).
» Community Activities Status:
- 1. Scheduling an XMPP Implementation Overview between 1pm and 3pm EST on Thursday 5/20/2010 to on-ramp new members of the team.
- 2. Share the information about the cloud instance, source code and other artifacts.

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Implementation Geographies Workgroup
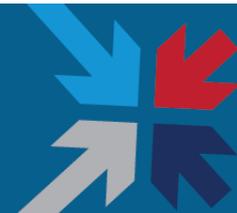
» Purpose is to plan for early implementations demonstrating real-world information exchange following existing care delivery patterns

» Key June 10th Deliverable: Key Implementation Geographies

» Leader: Paul Tuten

» To date, the WG has:

   • Early list of potential geographies:
     http://nhindirect.org/Potential+Implementation+Geographies

   • Early list of operational considerations

     – http://nhindirect.org/Implementation+Operational+Plan

» Last week, the WG set action items to:

   • Review the Implementation Operational Plan and the success metrics therein

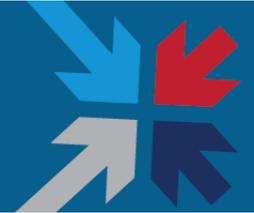**NHIN**
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Future WGs

» Testing WG
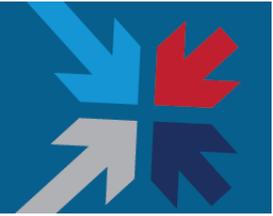» Documentation WG
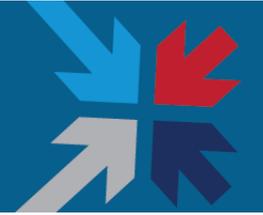
Calendar & Participation

WG Schedule

» WGs adhere to the below schedule, meeting via teleconference on a weekly basis

WG	Meeting Time
User Story Review WG	Mondays 11am-12pm EST
Content Packaging WG	Wednesdays 1pm-2pm EST
Security & Trust WG	Thursdays 2pm-3pm EST
Comprehensive HIE Interop WG	Tuesdays 2pm-3pm EST
Individual Involvement WG	Thursdays 1pm-2pm EST
Implementation Geographies WG	Fridays 2pm-3pm EST
Addressing & Directories WG	Wednesdays 3:30pm-4:30pm EST
Abstract Model Review WG	Wednesdays 11am-12pm EST
Concrete Implementation WG	Tuesdays 12pm-1pm EST

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Close to 200 Implementation Group Participants
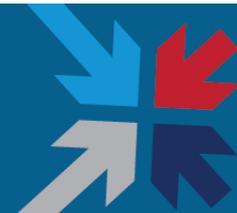
» **PHR**
  - Microsoft (HV/Amalga)
  - Google
  - Relay Health

» **EHR**
  - Allscripts
  - Cerner
  - eClinicalWorks
  - Epic
  - GE
  - McKesson (through RelayHealth)
  - Siemens
  - Greenway Medical Technologies

» **HIE Technology**
  - RelayHealth (also PHR & EHR)
  - Axolotl
  - Mirth
  - VisionShare
  - GE
  - MedAllies
  - CSC
  - Medicity
  - Kryptiq
  - IBM/Open Health Tools
  - Secure Exchange Solutions
  - Informatics Corporation of America
  - Microsoft (HV/Amalga)
  - Oracle Health Sciences
  - Carespark/Anakam
  - Carespark/Mobile MD
  - MEDNET
  - EHR Doctors
  - FEI.com,
  - Misys Open Source Solutions
  - Atlas Development Corporation

» **HIT Association**
  - Clinical Groupware Collaborative

» **Medical Associations**
  - American Academy of Family Physicians

» **State/Regional HIO**
  - CA (eConnect)
  - CA (HHS)
  - CA (Redwood MedNet)
  - TN (CareSpark)
  - OR (Oregon Health Information Technology Oversight Council)
  - MA (NEHEN-CSC)
  - WA (Community Choice PHCO)
  - MAeHC
  - NY (HIXNY)
  - NY (Hudson Valley) (through MedAllies)
  - RIQI (Rhode Island Quality Institute)
  - Carespark
  - HealthBridge
  - Community Choice Healthcare Network

» **IDN**
  - Kaiser
  - BIDMC/CareGroup

» **Consulting**
  - Gartner
  - Carespark/CGI Federal
  - Carespark/Serendipity Health
  - HLN Consulting, LLC

» **National Network**
  - SureScripts
  - Medplus/Quest
  - MedPATH Secure Networks, Inc.

» **Federal**
  - Veteran's Administration
  - Social Security Administration
  - National Institutes of Health

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Q&A