

Technical Requirements

1. What are the core technical requirements that are needed to enable the establishment of provider directories?

In an effort to move towards a more open and standards based environment, we believe the best technical approach is SOA/web services.

The following core requirements should be considered for implementing SOA based directory services:

- Security enforcement – defining a policy by which data can be validated.
- Authorization – providing a mechanism for determining a provider’s credentials
- Authentication
- Ability to securely add/update/delete/suspend entity information
- Respond to queries for provider information
- Detect and resolve conflicts and alert administrators to potential conflicts
- Ability to capture attributes of directory content

Acknowledging that not all HISPs are able to support developing standards such as the NHIN HPD profile and due to the disparity among most health IT systems, a hierarchical approach in which HISPs gain access via an established Health Information Exchange would be ideal as it reduces the burden of the HISP to meet the proposed technical requirements. This enables the standards to be advanced without excluding those less technically capable.

2. What set of clinicians and entities and data elements are needed to enable the use cases of your stakeholders?

Ideally the standards defined by NHIN Direct (HPD Profile) should be considered. Many HIEs and EMRs are working toward this standard today.

Our customers currently maintain entity specific provider directories that include key attributes such as mailing addresses, status (active/inactive), unique identifiers such as NPI, DEA number, and appropriate credentials.

3. How should “routing” directories for specific HIE activities (e.g., NHIN Direct, regional HIO) interface with or interact with yellow pages directories? What data elements will link the two?

The yellow pages should draw attributes from the various LDAP directories within the HIEs. The yellow pages should be able to persist the data and support scheduled updates from the LDAP directories.

The data elements that link the two should be at least NPI and either mailing address/e-mail address for physicians. In the case of an organization provider (hospital, Lab, etc) there should also be an organizational NPI and an OID used for linkage.

4. How can we ensure newly developed directories are not duplicative but complement and enhance the value of existing infrastructure (e.g., operating HIOs, networks, etc) and emerging federal initiatives (e.g., NHIN Direct/Connect/Exchange) to the end users (e.g., providers, hospitals, consumers, etc.)?

Key identifiers should be defined which will allow correlation of the data across multiple directories. For example, a provider should be identified using a combination of their NPI and mailing address or an organization can be identified using OID and/or NPI.

Appropriate and timely administration of the directories will be key in maintaining the most accurate information.

5. **What are the different architecture models for directories (federated, repository vs. other approaches)? Which have been proven to work, and for what purposes?**

Our experience has shown that a hybrid federated approach is the most flexible model. Having a central index that provides links into federated directories will allow the various systems to maintain their own directory without risk of unnecessary updates from unverified entities.

The challenges of maintaining a provider directory are very similar to the challenges of maintaining a master patient index in terms of validating the most appropriate source of truth with data from varying system.

6. **What standards do you recommend using for provider directories (data standards, exchange standards)?**

The standards defined by NHIN Direct (HPD Profile) should strongly be considered. Many HIEs and EMRs are working toward this standard today. The hierarchical approach suggested above would accommodate the legacy format/transactions.

Questions primarily targeting routing directory

7. **What should be the requirements on health information service providers (HISPs) for establishing directories for directed exchange? What are the broad brushes of the requirements?**

- a. Policies – policies should be created which allow for identity verification.
- b. Provider ID – unique IDs (NPI or local ID/facility codes) along with an address should be the minimum data set required
- c. Managing certificates – certificates should be required for proper authentication
- d. Routing – routing should require a unique address for the provider/organization along with a domain.

8. **What would be the value of an open and standardized approach to directories in this context? Would this enable interoperability across directories? Would accreditation of HISPs be a good way to accomplish this? EHR certification?**

The value of an open and standardized approach would encourage participation and provides a roadmap for future advancement. Accreditation would help to establish a common trust among all entities.

9. **How would a provider or HISP register themselves to be included in the provider directory?**

The best approach is to leverage the current accreditation and certification policies and procedures in place today for HISPs. This accreditation and certification should then provide automated inclusion in the appropriate provider directory. Updates should never have to come directly from the provider.