



# Directory Services

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# Who are we?

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## California Association of Health Information Exchanges

Facilitate and promote the secure exchange of information throughout California to improve the quality, safety, and affordability of health services

Establishing a trusted network for inter-organizational exchange through voluntary self-governance of statewide HIE



## How do I establish trust?

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1. Know your conversation is not overheard
2. Know the information can be trusted
3. Know who you are talking about
4. Know who you are talking to
5. Know how the information will be used
6. Know you have permission for the conversation



## A component of trust...

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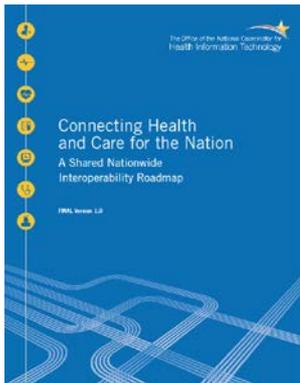


# What are we doing?

## A Shared Nationwide Interoperability Roadmap

### M. Health Care Directories and Resource Location:

*The ability to rapidly locate resources, including providers, individuals, APIs, networks, etc. by their current or historical names and descriptions will be necessary for finding, accessing and/or sharing electronic health information.*



See <https://www.healthit.gov/sites/default/files/hie-interoperability/nationwide-interoperability-roadmap-final-version-1.0.pdf>



## Why are we doing it?

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No longer reasonable to know everything about your trading partners

– Purpose of Directory Services:

**Discover individuals, organizations, and the means by which to exchange information with them**





# Why are we doing it?

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## Broader purpose...

- Electronic exchange
  - Referrals
  - Finding a physician
- } *Care coordination*
- *Consumer access too*



# What do we need?

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- Provider identification
  - Canonical, universal means to identify a provider
  - NPI is a start, but not enough



# What do we need?

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- Provider identification
- Reliable demographic information
  - Information changes
  - We are exchanging PHI based on this information



# What do we need?

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- Provider identification
- Reliable demographic information
- Detailed electronic endpoint description
  - Direct is an important (near-term) use case
  - Must contain all means for exchange: Direct addresses, query endpoints, FHIR resources, etc...
  - Must link methods to individuals and organizations



# What do we need?

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- Provider identification
- Reliable demographic information
- Detailed electronic endpoint description
- Context
  - Providers practice at more than one location, each of which may have different means of exchange
  - Providers offer different services at different locations



# What do we need?

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- Provider identification
- Reliable demographic information
- Detailed electronic endpoint description
- Context
- Distributed management / federated architecture
  - No one organization has all of the information
  - There is no national database



# What do we need?

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- Provider identification
- Reliable demographic information
- Detailed electronic endpoint description
- Context
- Distributed management / federated architecture



## How are we doing it?

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- Management is distributed
  - The best way to keep the data accurate is to manage it at the authoritative organization
- Architecture is federated
  - One means to achieve distributed management
  - Distributes the workload
- Use is governed by policy
  - Need to establish how everyone behaves



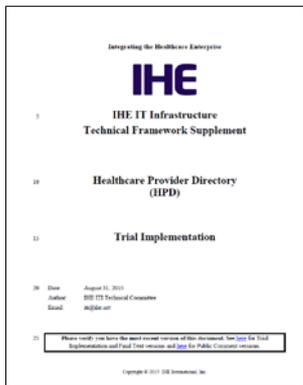
# How are we doing it?

## IHE's Healthcare Provider Directory (HPD) Profile

National, open standard that supports:

- Individuals and organizations
- Relationships among individuals and organizations
- Electronic services (beyond Direct, including FHIR)
- Context for electronic services (for an individual, an organization, or a relationship)
- Federation

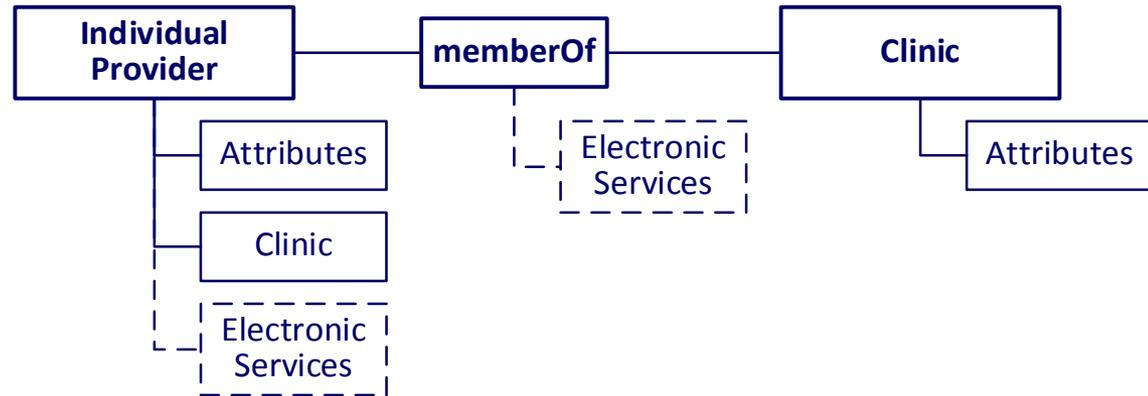
See [http://www.ihe.net/uploadedFiles/Documents/ITI/IHE\\_ITI\\_Suppl\\_HPDP.pdf](http://www.ihe.net/uploadedFiles/Documents/ITI/IHE_ITI_Suppl_HPDP.pdf)





# What can it do?

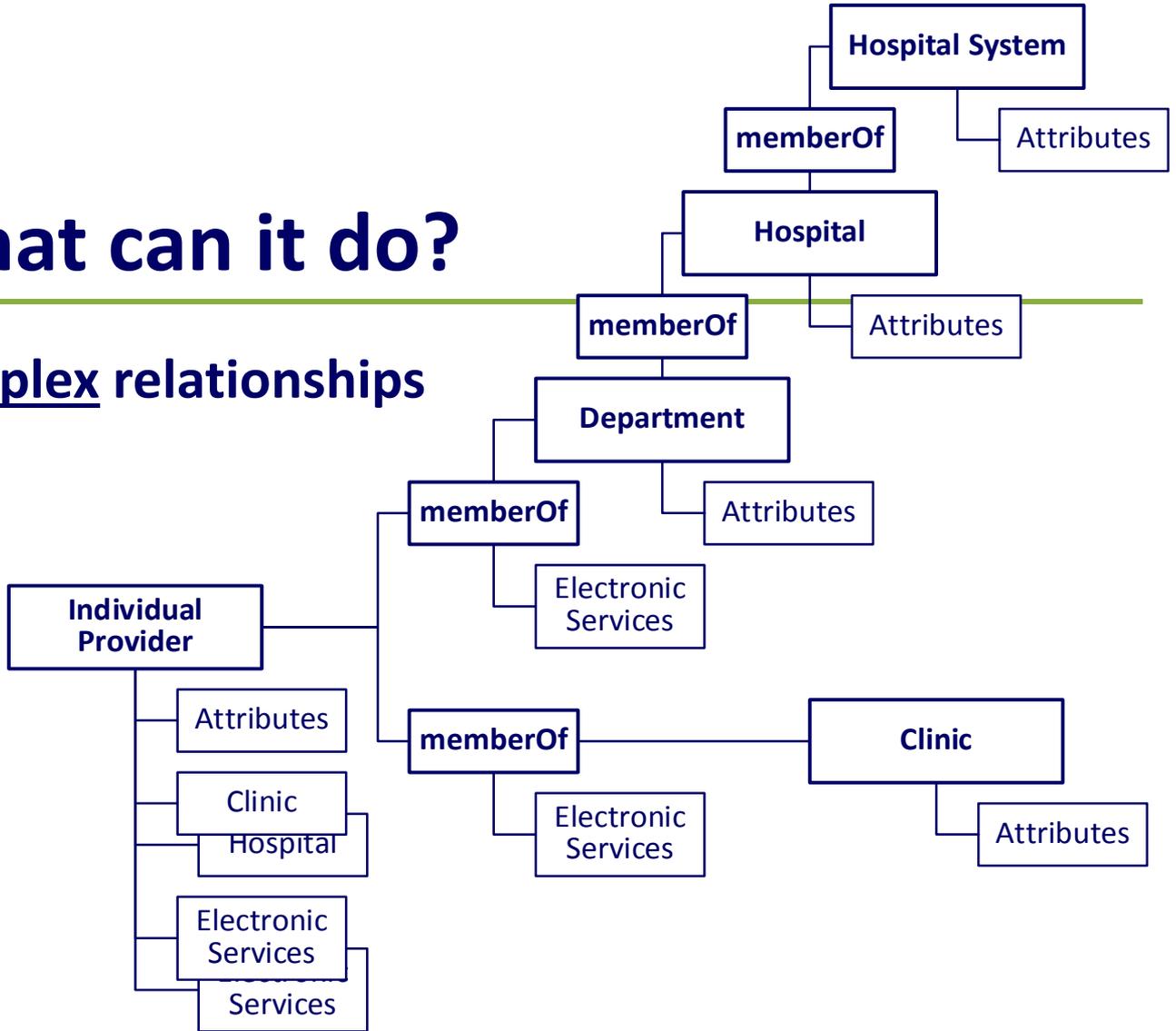
## Complex relationships





# What can it do?

## Complex relationships





## How are we doing it?

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Participation in CTEN Directory Services is governed by policy

- For both information directories and query clients
- Establishing behaviors for data integrity, access, security, etc.
- Supporting local autonomy

See <http://www.ca-hie.org/site-content/2014/10/CTEN-Policy-EPP-6-for-Federated-Provider-Directory-Services-v1.0.pdf>



## How are we doing it?

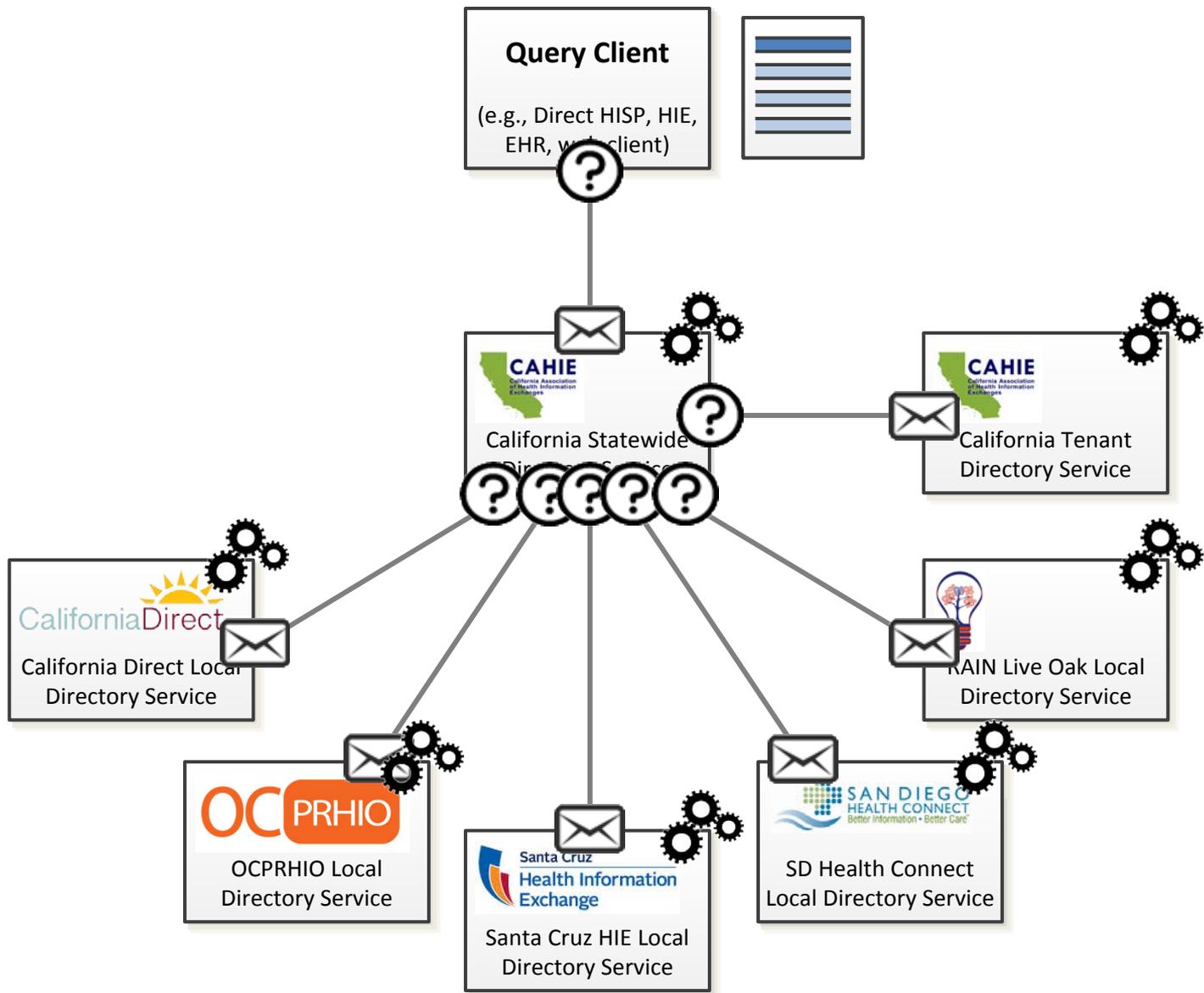
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Policies establish a minimum dataset

- Required data for each individual or organization
  - Limited to what is *really* required
  - Not all HPD requirements are “required”
- Every individual must have an organization
- Every service must have a context

See <http://www.ca-hie.org/site-content/2015/09/CTEN-Policy-EPP-6.1-Minimum-Data-Set-for-Directory-Services-v1.0.pdf>

See <http://www.ca-hie.org/site-content/2015/08/CTEN-Minimum-Data-Set-for-Directory-Services-v1.0.xlsx>





## Another way...

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Unfortunately, HPD is dying...

- As a standard, it is:
  - Old, based on SOAP web services
  - Bulky, using XML
  - Cumbersome, using LDAP and DSML



## Another way...

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Any standard will work as long as

- It is open
- It is mature
- It is adopted by industry
- It supports individuals and organizations
- It supports context and complex relationships
- It supports discovery of “all” types of exchange
- It supports federation



## Another way...

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- HL7 FHIR®
  - Modern technology, less bulky  
RESTful web services, XML or JSON
  - Granular, less cumbersome  
Get the data you need
  - Simple, doesn't boil the ocean  
Deliver what 80% of implementations need today



*FHIR represents a paradigm shift for HIE and SDOs*



## Another way...

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- HL7 FHIR®
  - Organized by “resources”  
Practitioner, Organization, Location
  - Adaptable through “extensions”  
Doesn’t break when you add your own data
  - Described through profiles, implementation guides





## Another way...

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FHIR may be a better answer

- It is open and managed by HL7
- It is maturing rapidly (at DSTU2)
- It is rapidly gaining industry commitment
- It supports individuals and organizations
- It supports context and complex relationships
- It supports discovery of “all” types of exchange (through extensions)
- It supports federation





# What more can I tell you?

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- We know what we need
- We have something that works
- We need a change



# Questions?

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# Contact Information

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