# Services Directory (ServD)

Response to OMG RFP

Healthcare Community Services Provider Directory

# HSSP context

- HSSP a collaboration between OMG and HL7
- Service Functional Model for HCSPDIR documented by HL7
- RFP for a SOA specification issued by OMG in March 2011
- DCA responds with draft specification Feb 2012
- Intent to finalise specification by September 2012 for OMG ratification
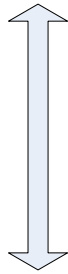- Subsequent ratification by HL7

# SrvD Scope of Work

- Specification of Interfaces to a directory conforming to the HCSPDIR SFM
- Object model that describes data elements and relationships that are used by those interfaces
- Use cases and interaction diagrams
- Platform dependent implementation based on Web Services SOAP
- Informative content relating to use of a Service Directory and relevance to prior work in this area
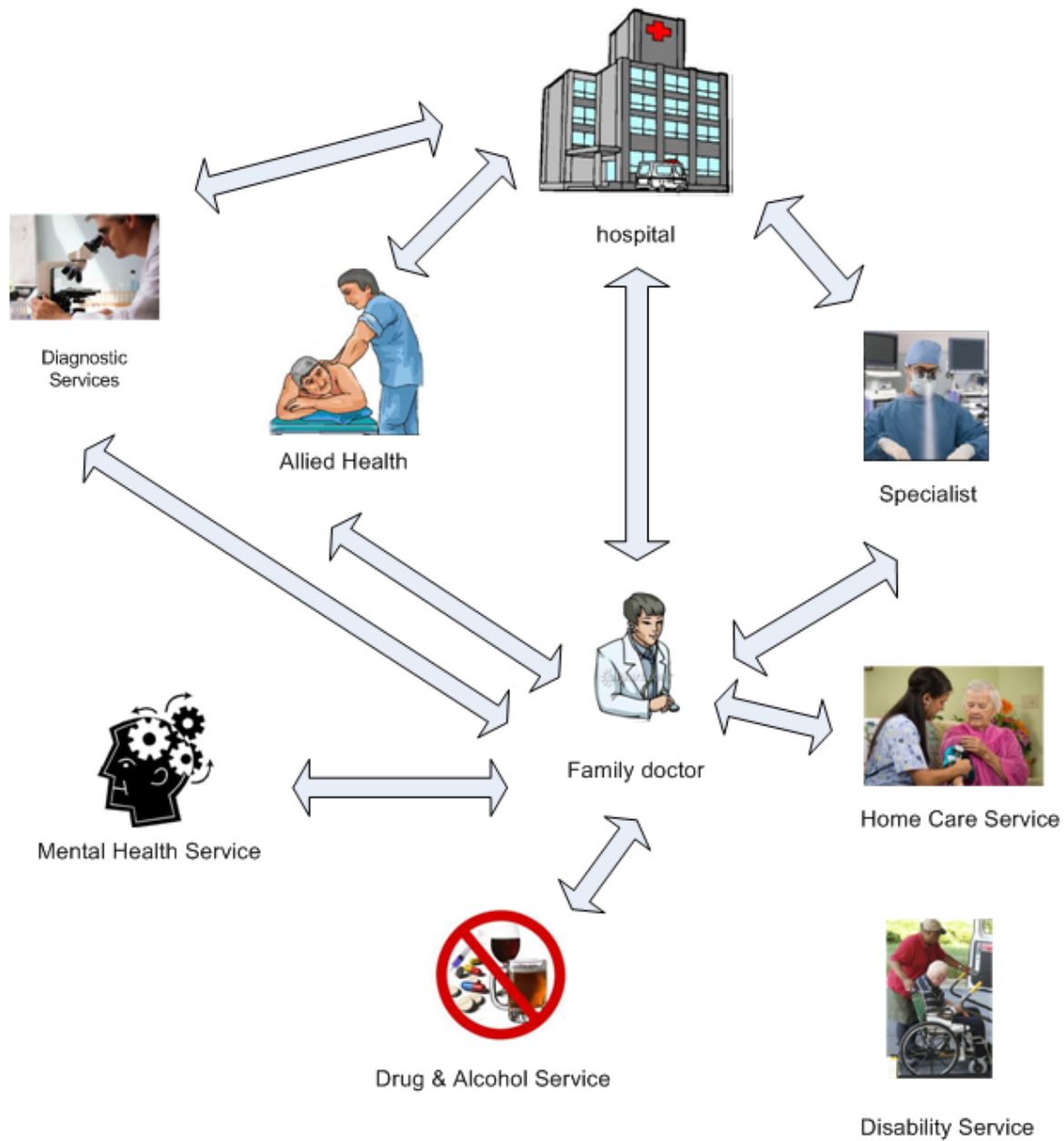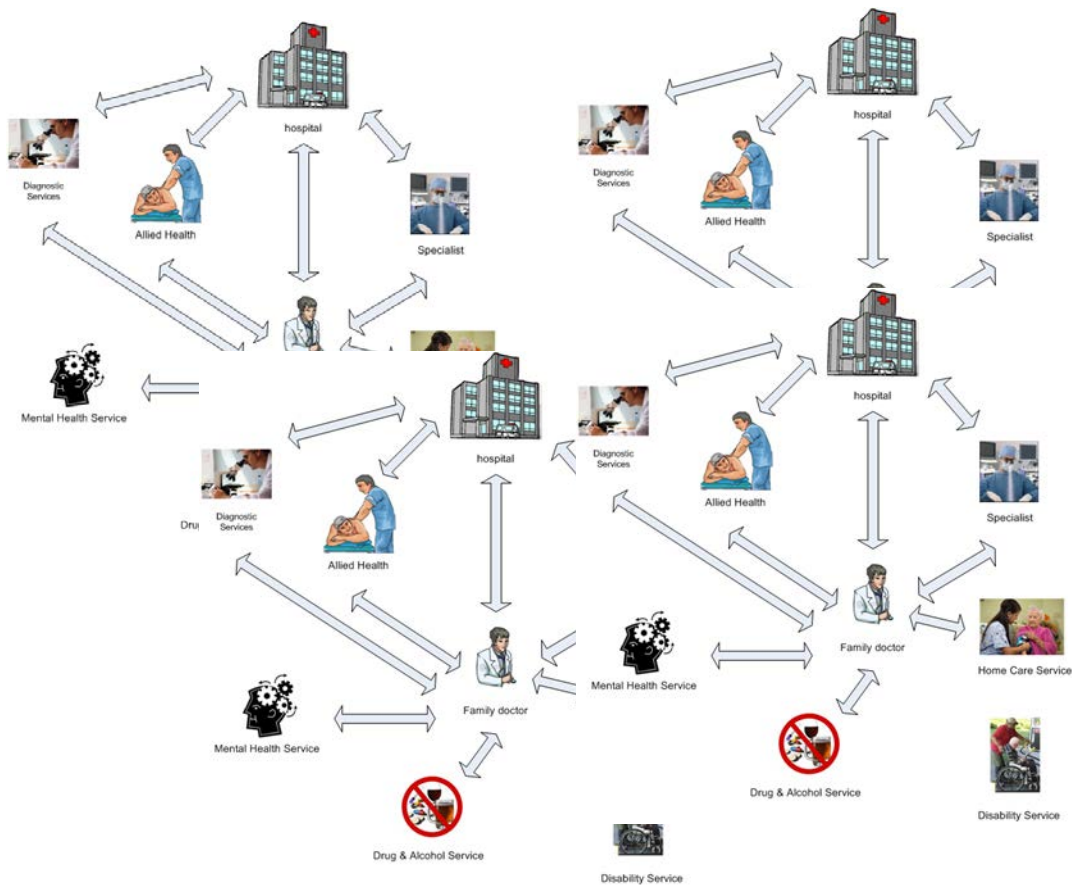
# Service Co-ordination



hospital

Family doctor

hospital

Diagnostic Services

Allied Health

Specialist

Mental Health Service

Family doctor

Home Care Service

Drug & Alcohol Service

Disability Service

Complexity of the system is a barrier to service access

# ServvD objectives

- Enable the discovery of health and community services and practitioners (unsecured interfaces)

- Support B2B secure exchange of health consumer information  (secured interfaces)

- Support policy and processes to manage the integrity of organisation & provider information.

- Implement open standards to accelerate adoption

# ServD

- Platform independent model:
  - Interfaces
  - Data definitions
  - Conformance points
- Platform specific model:
  - SOAP/WSDLS
  - SQL schema
  - Services Directory reference information

# ServD is based on the Human Services Directory

Single physical data base with published APIs:

- Victorian state directory ⟶ National directory (Aug 2012)

Used by:

- National GP after hours service
- National rollout of electronic messaging services
- Source for hospital patient system provider directories
- Consumer information portal (300,000 UV/mth)
- Android & IPAD "service finder apps")

http://gpah.data.com.au/Results.aspx?Service=Medical&Lat=-33.838345&Long=151.16528&Radius=10000&Addr=18+Vernon+Street&Locality=HUNTERS+HILL%2c+NSW

Favorites | http--localhost-tcm7mob... | Suggested Sites | Upgrade Your Browser

GP After Hours

NATIONAL.HEALTH.CALL.CENTRE.NETWORK

healthdirect AUSTRALIA
1800 022 222

New Search   Refine Search   Showing Results for Medical Services near 18 Vernon Street, HUNTERS HILL, NSW

**1.** DMC MEDICAL CENTRE, DRUMMOYNE
Medical
Distance: 1.8km
159-167 VICTORIA Road, DRUMMOYNE, 2047, NSW
Ph: 02 98196666

| Available Hours: | | |
| --- | --- | --- |
| Monday | 07:30 AM - 08:00 PM |
| Tuesday | 07:30 AM - 08:00 PM |
| Wednesday | 07:30 AM - 08:00 PM |
| Thursday | 07:30 AM - 08:00 PM |
| Friday | 07:30 AM - 08:00 PM |
| Saturday | 09:00 AM - 04:00 PM |
| Sunday | 09:00 AM - 04:00 PM |

Open

**2.** ENHANCE ORTHODONICS DRUMMOYNE
Medical
Distance: 2.04km
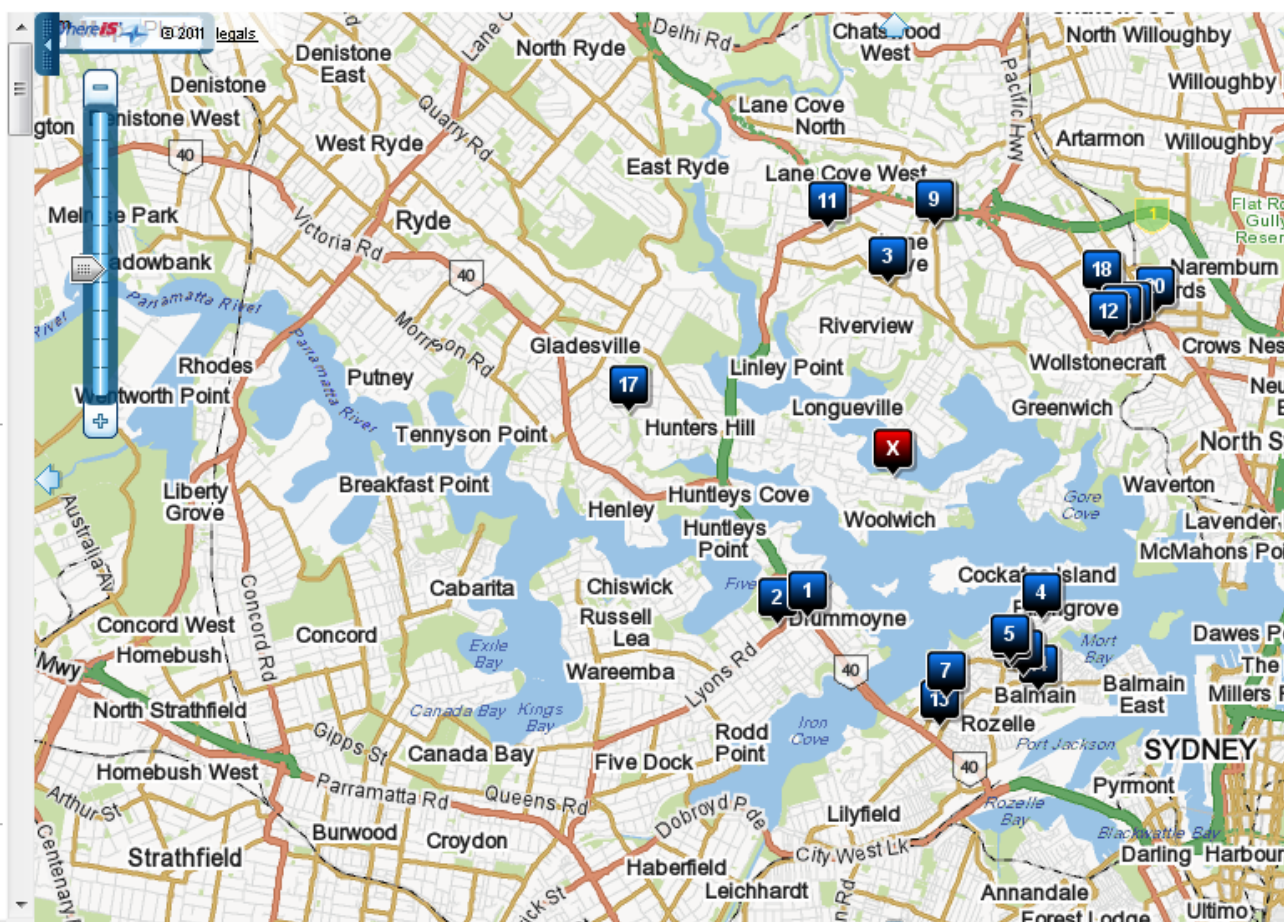Suite 19, Level 1, 38-50 LYONS Road, DRUMMOYNE, 2047, NSW
Ph: 02 97198820

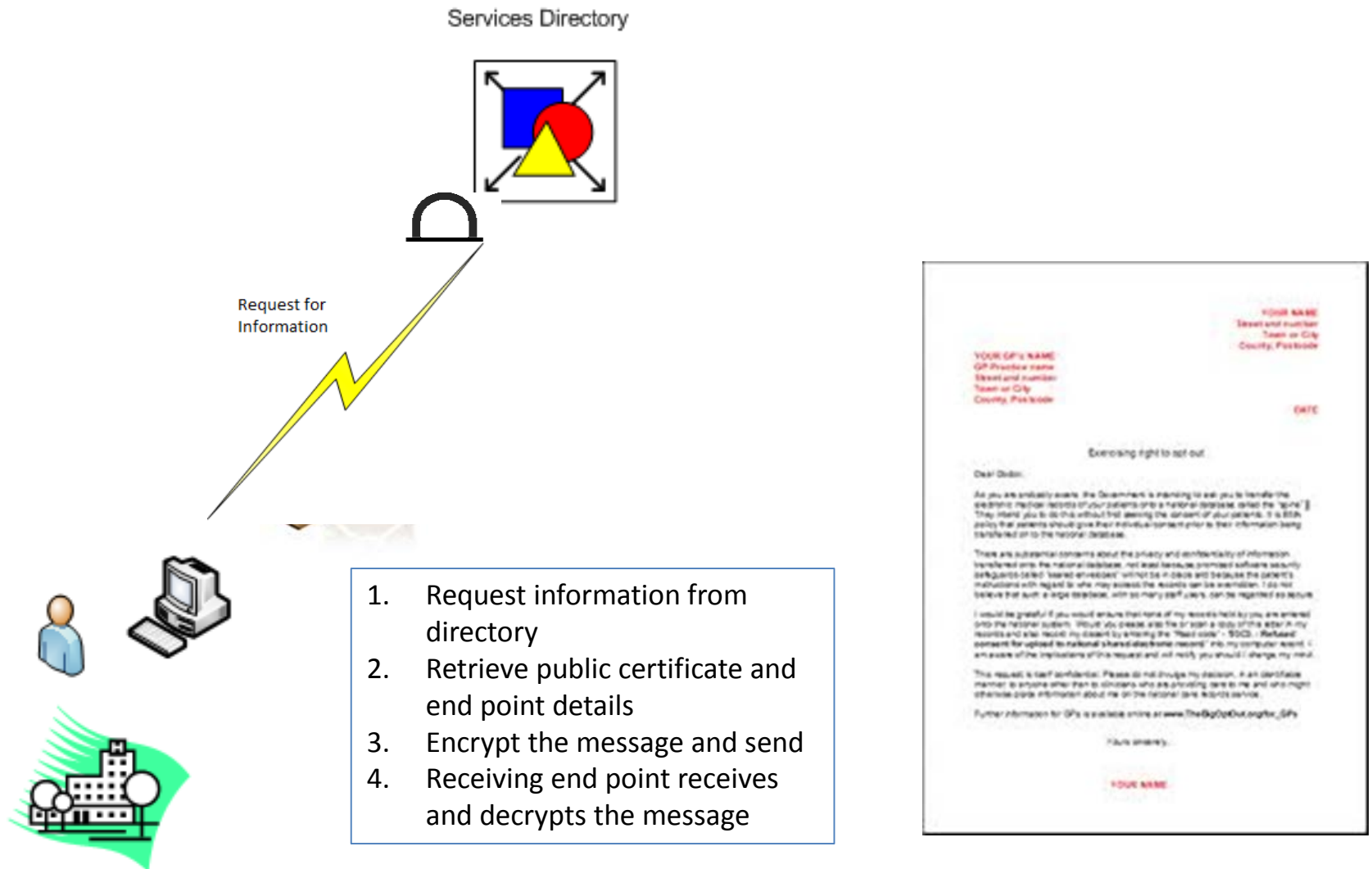| Available Hours: | | |
| --- | --- | --- |
| Monday | 08:30 AM - 05:00 PM |
| Tuesday | 08:30 AM - 05:00 PM |
| Wednesday | 08:30 AM - 05:00 PM |
| Thursday | 08:30 AM - 05:00 PM |
| Friday | 08:30 AM - 05:00 PM |

Open

**3.** LANE COVE FAMILY MEDICAL PRACTICE
Medical

© 2011 legals

# Better Health iPAD App
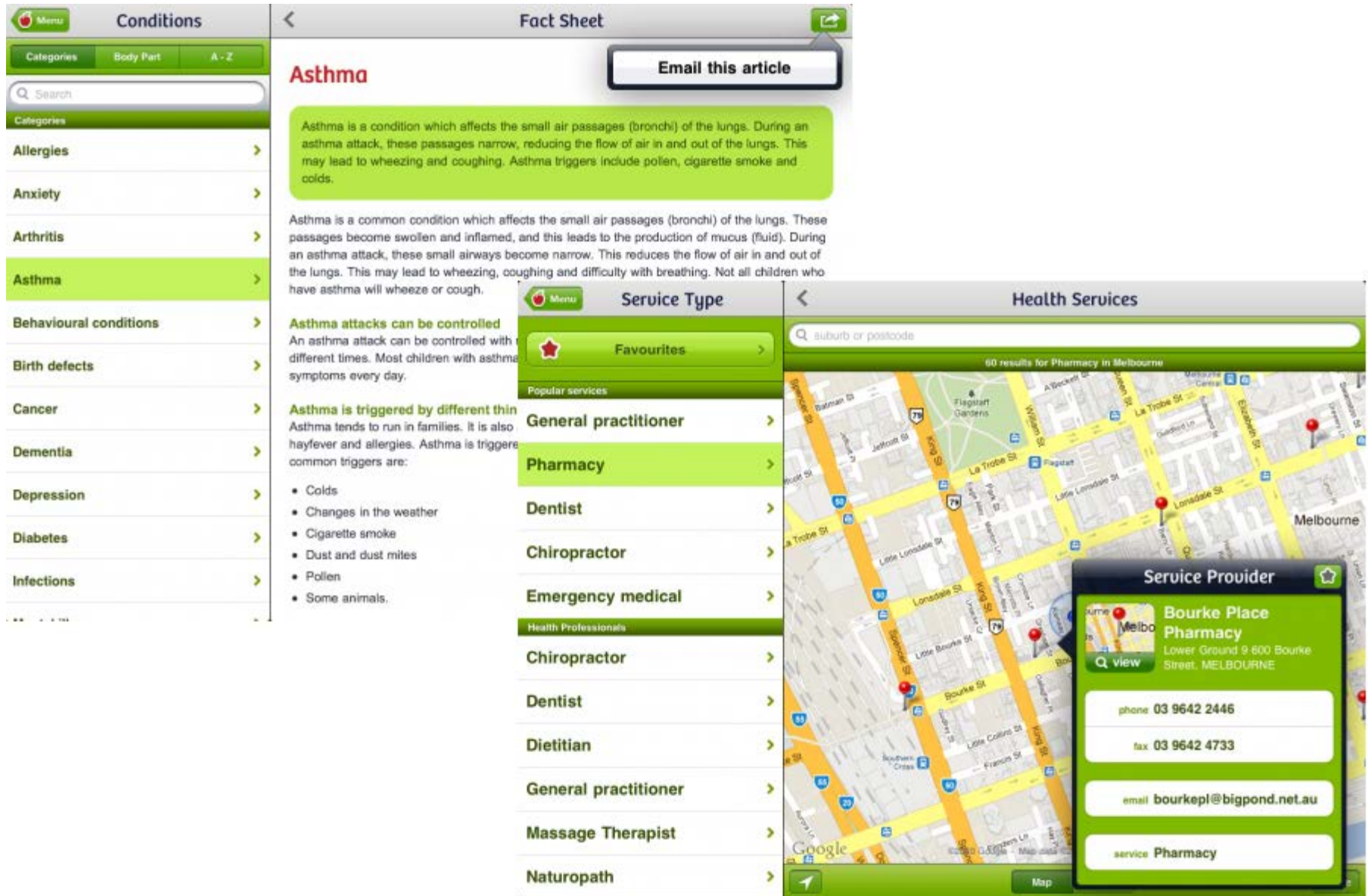
# B2B Scenario: Secure message

Services Directory



Request for
Information

1. Request information from directory
2. Retrieve public certificate and end point details
3. Encrypt the message and send
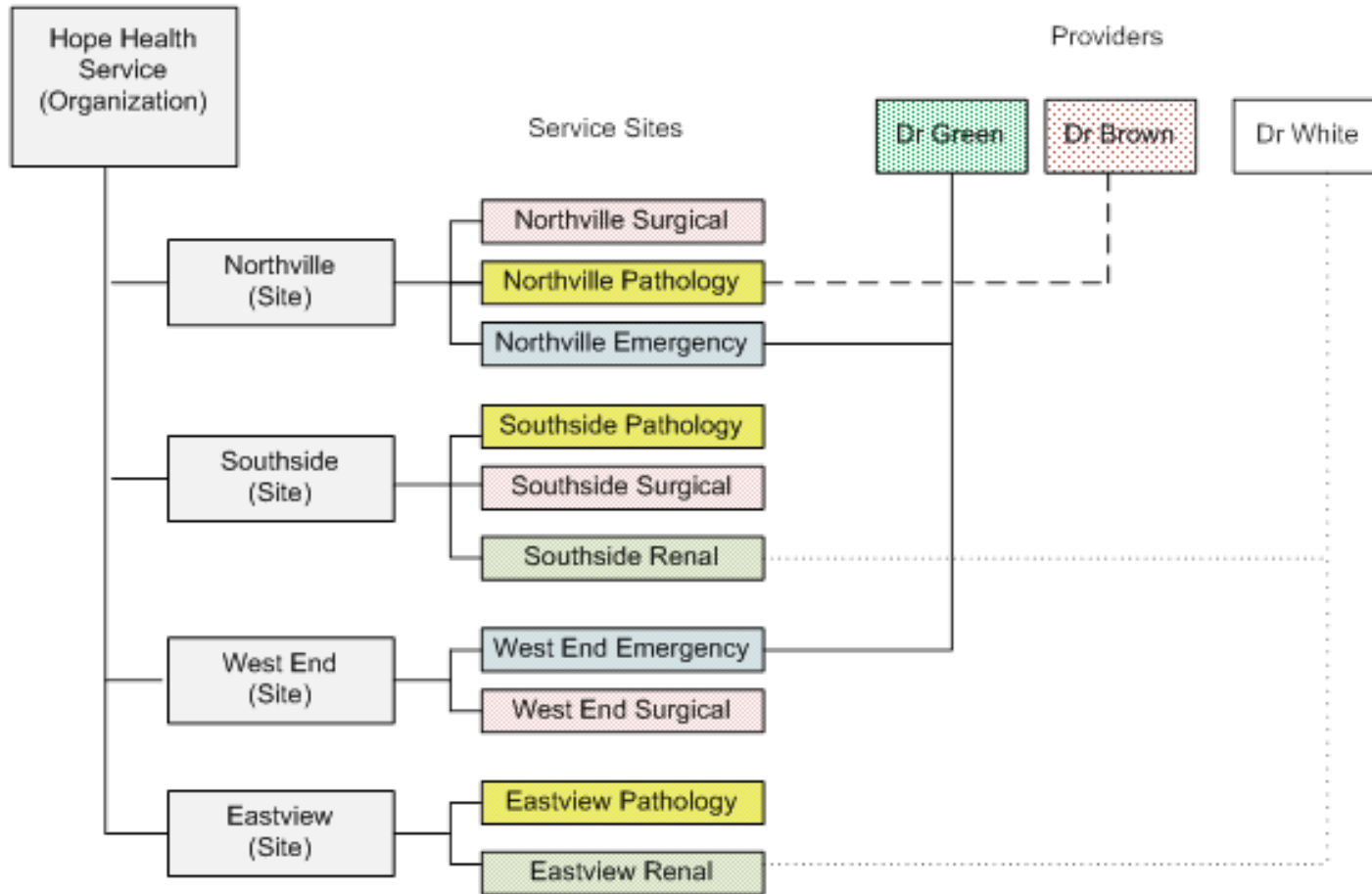4. Receiving end point receives and decrypts the message

# Service(s) Paradigm

- Maybe we require information about an individual provider who is known to us.

- But often we are *searching* for a *place* where there are *individuals we don't yet know* who can *deliver a service that we need.*

- The service needs to be accessible (location, facilities, opening hours, eligibility, funding etc)
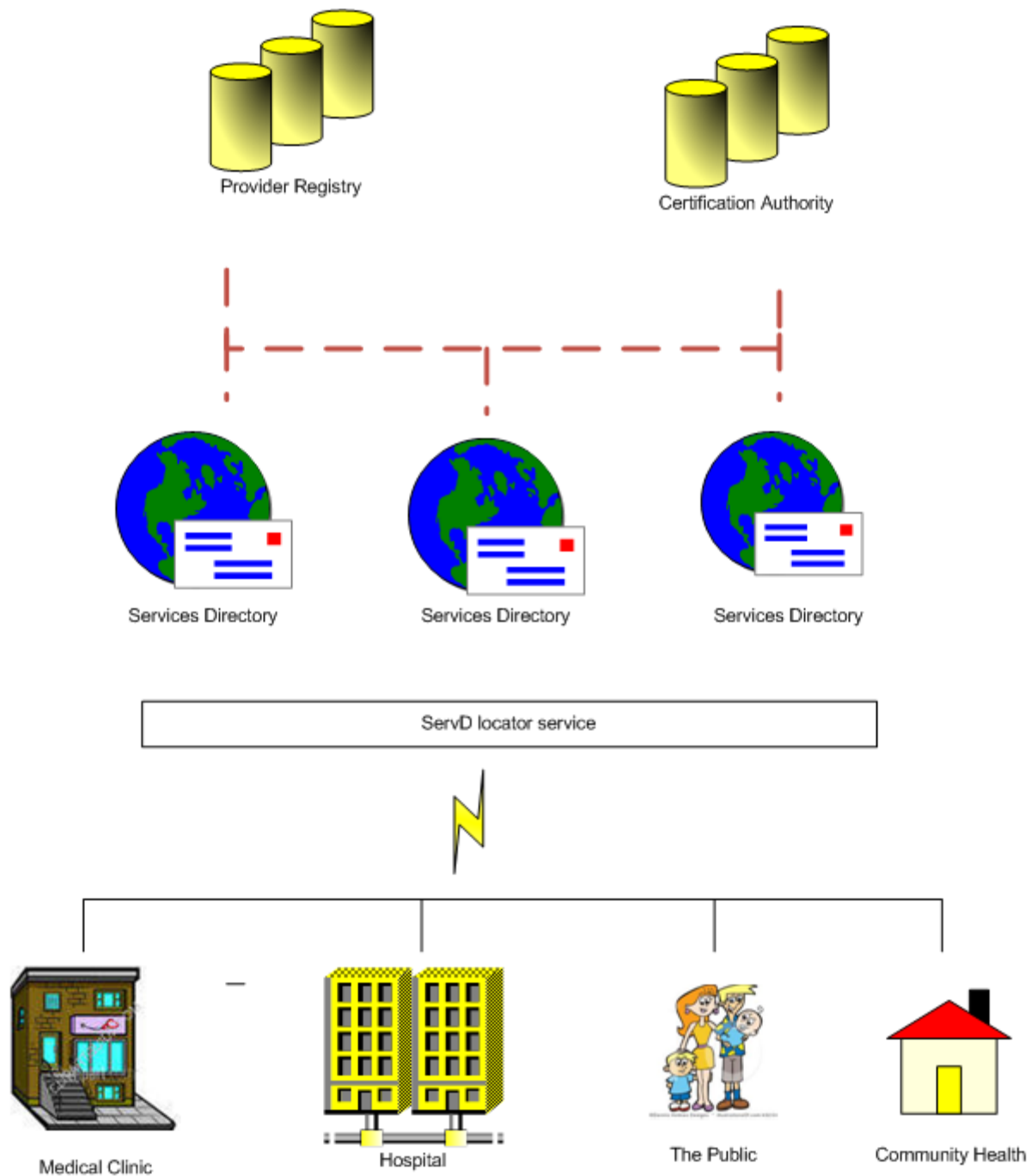
# Issues

- Health service or health provider?
- Trusted information
- Managing certificates
- Securing access
- Access mechanism:
  - Public facing
  - Application to application
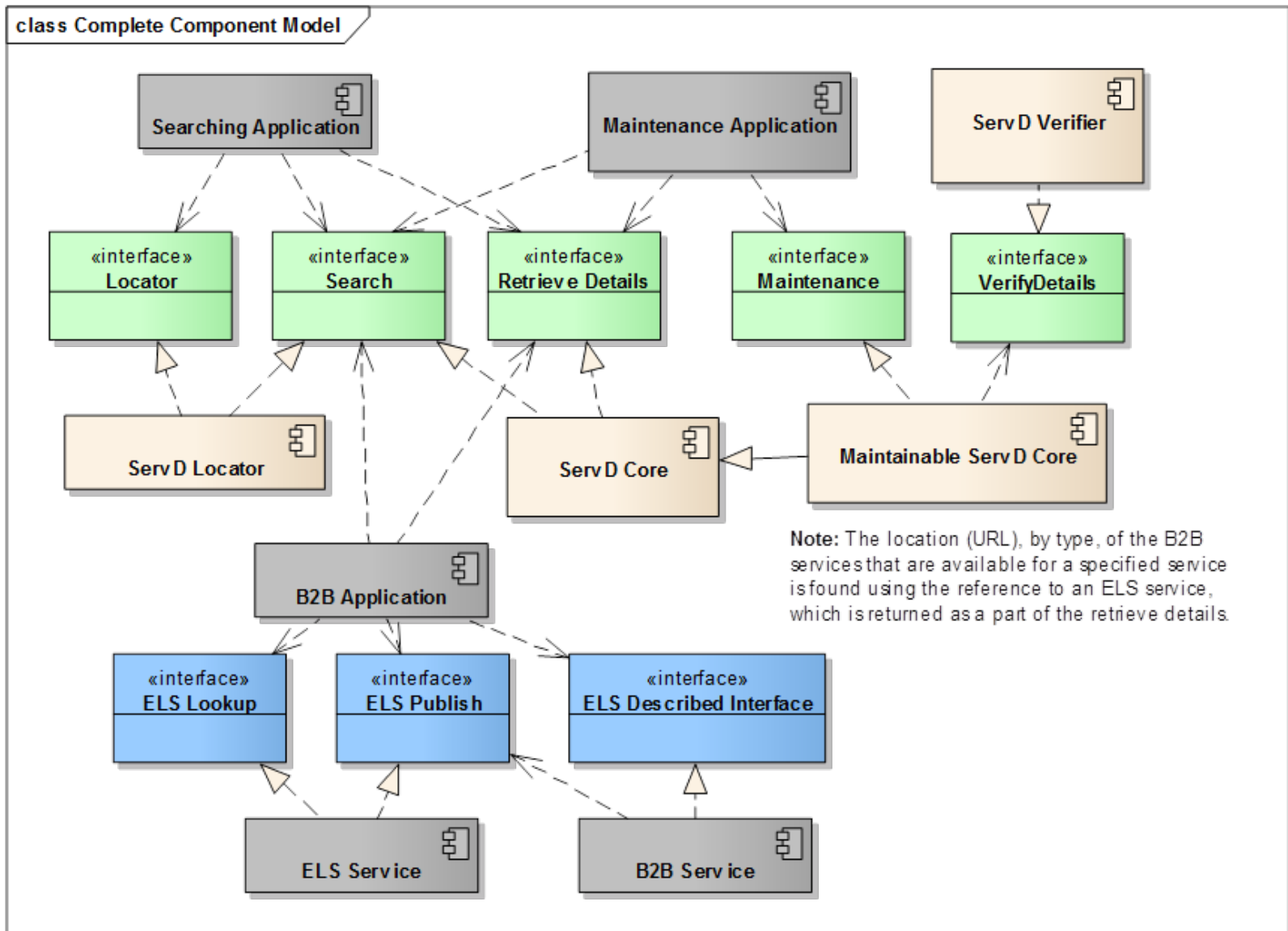
# Service site concept

ServD Model

Provider Registry

Certification Authority

Services Directory

Services Directory

Services Directory

ServD locator service

Medical Clinic

Hospital

The Public

Community Health

# Component Model



class Complete Component Model

**Note:** The location (URL), by type, of the B2B services that are available for a specified service is found using the reference to an ELS service, which is returned as a part of the retrieve details.
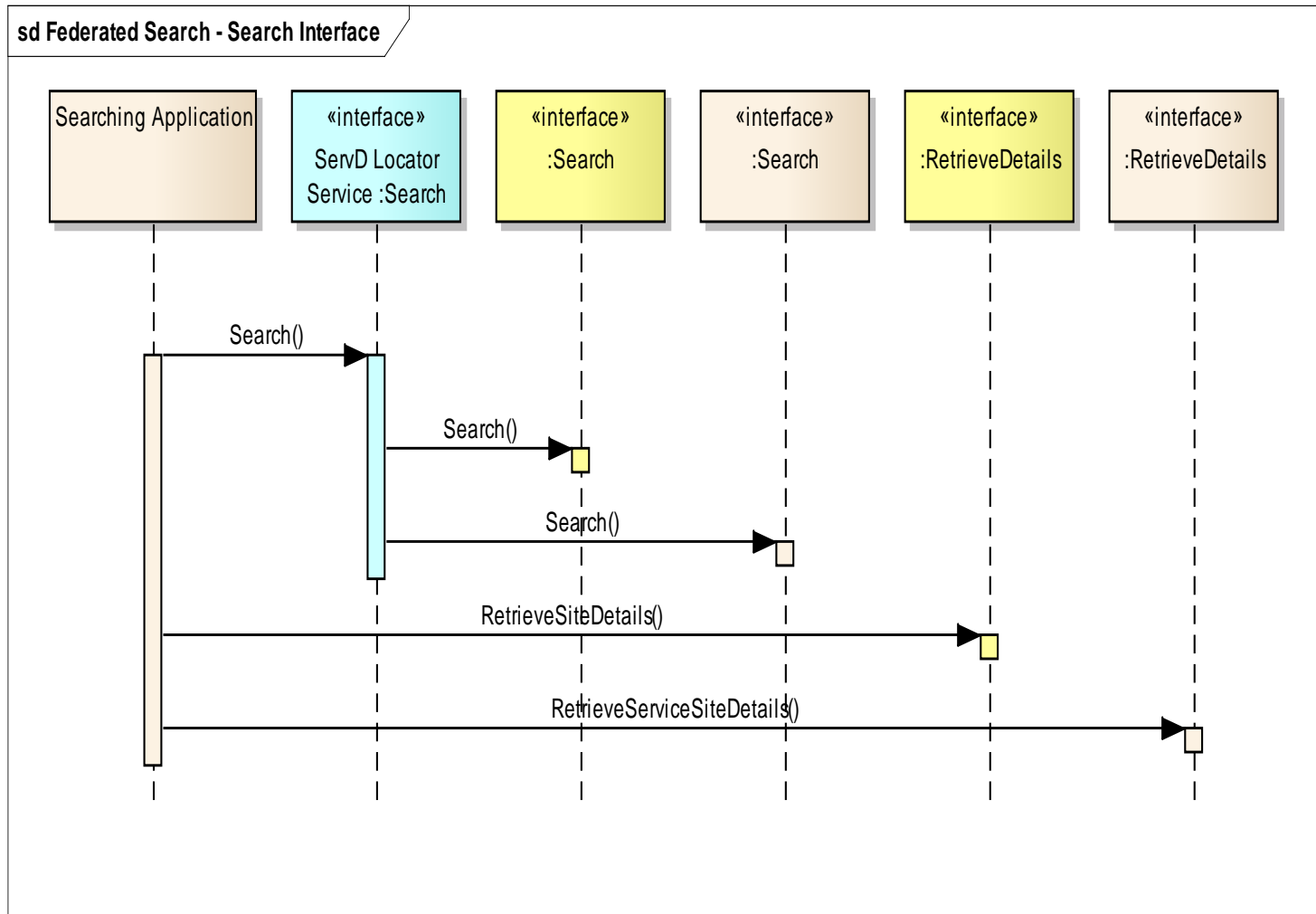
# Federation – ServD Locator

- Multiple ServD instances linked via a ServD Locator

- Each instance is associated with *Coverage Areas*, defined by *Discrimators* such as location or specialty.
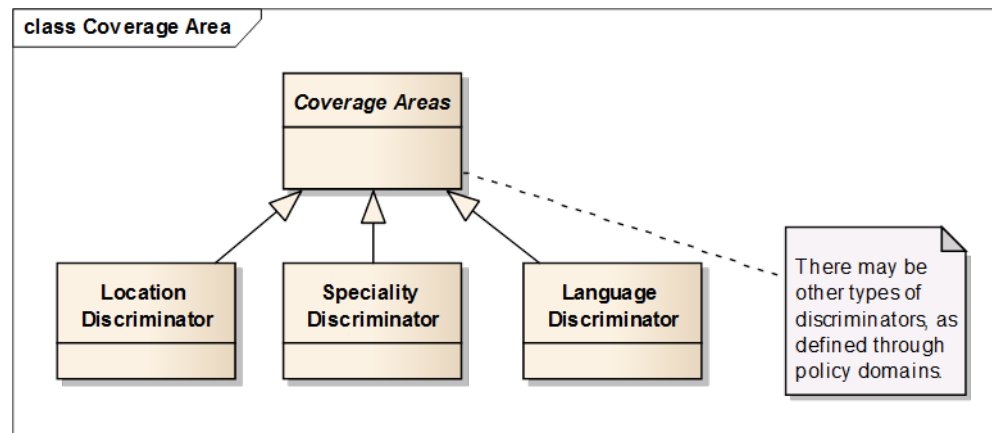
# Federated Search & Retrieve Details

# Maintenance Management

- "Opt in" model assumes that providers and organizations must consent for their data to be updated

- Two maintenance roles:

  – Author: may enter data that is marked provisional until verified

  – Approver: responsible for verifying changes at their source and accepting the change

- Author/approver roles may be assigned to unique users and B2B applications

# Maintain Site Record – Author & Approver
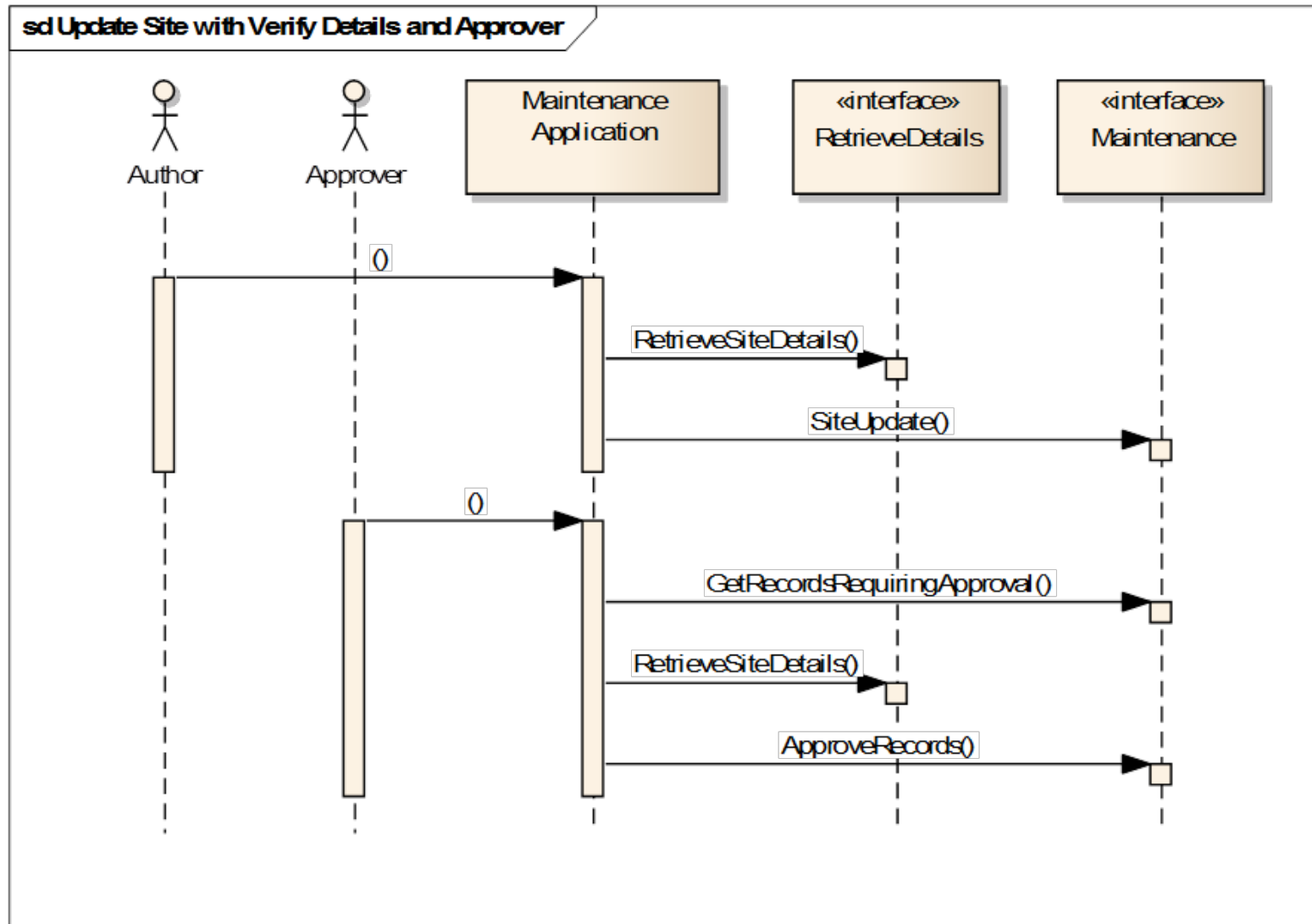
# Data validation & credentialing

- Services Directory can initiate calls to external databases to validate data:
  - organization registration
  - individual provider credentials & renewal dates
  - site and provider identifiers
  - certificate revocation lists
- Enables objects to *validate themselves* on an a parameter specified interval.

# External Verification
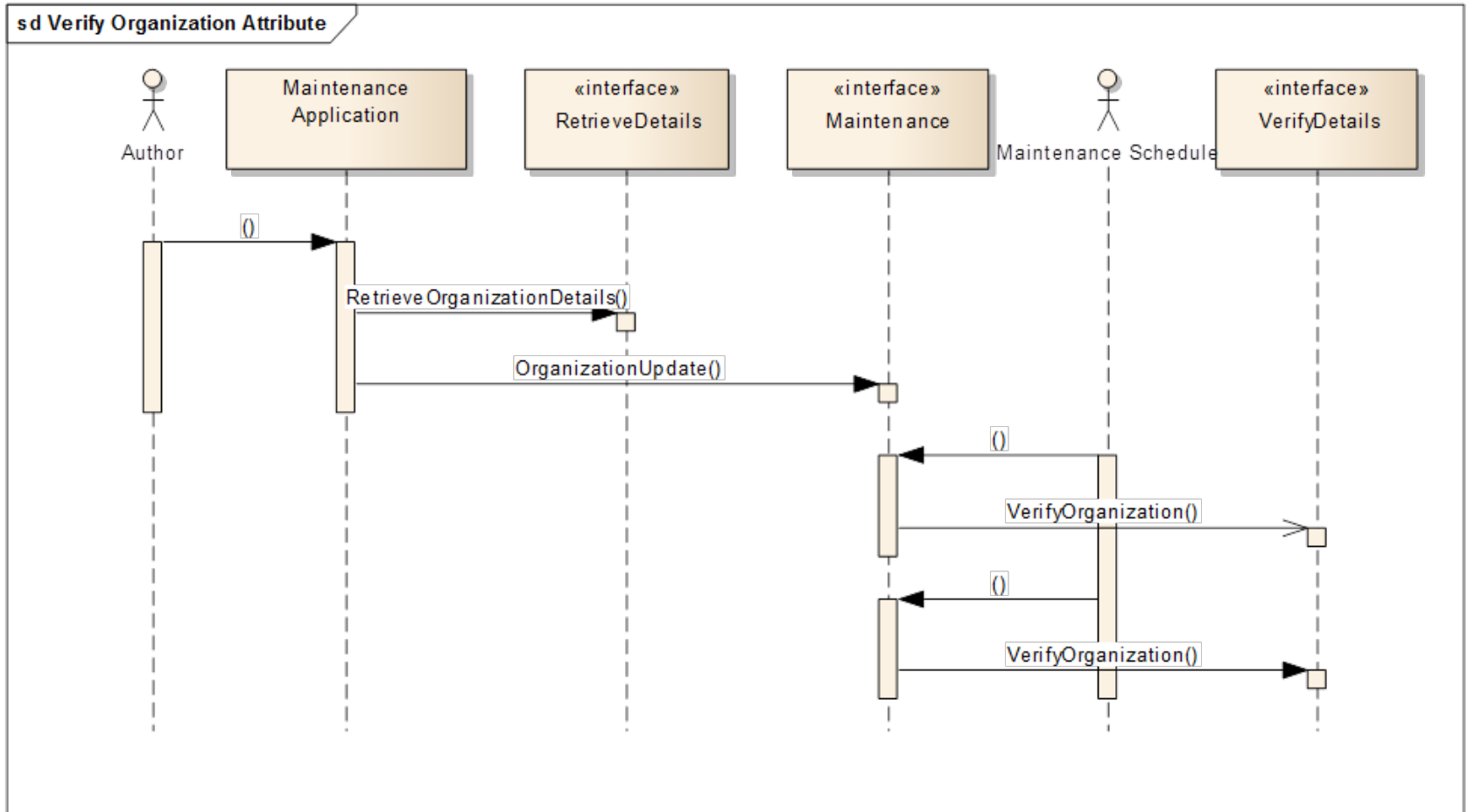
# Facilitating B2B communication using the Endpoint Locator Service (ELS)

Secure electronic health record transfer requires:

- Unique identifiers for providers and service sites

- Service site end point network address location

- Public certificates for encrypting messages (sender) and authentication (receiver)

- Information about the capabilities of the receiving end point to consume payloads.

# B2B interaction using the ELS
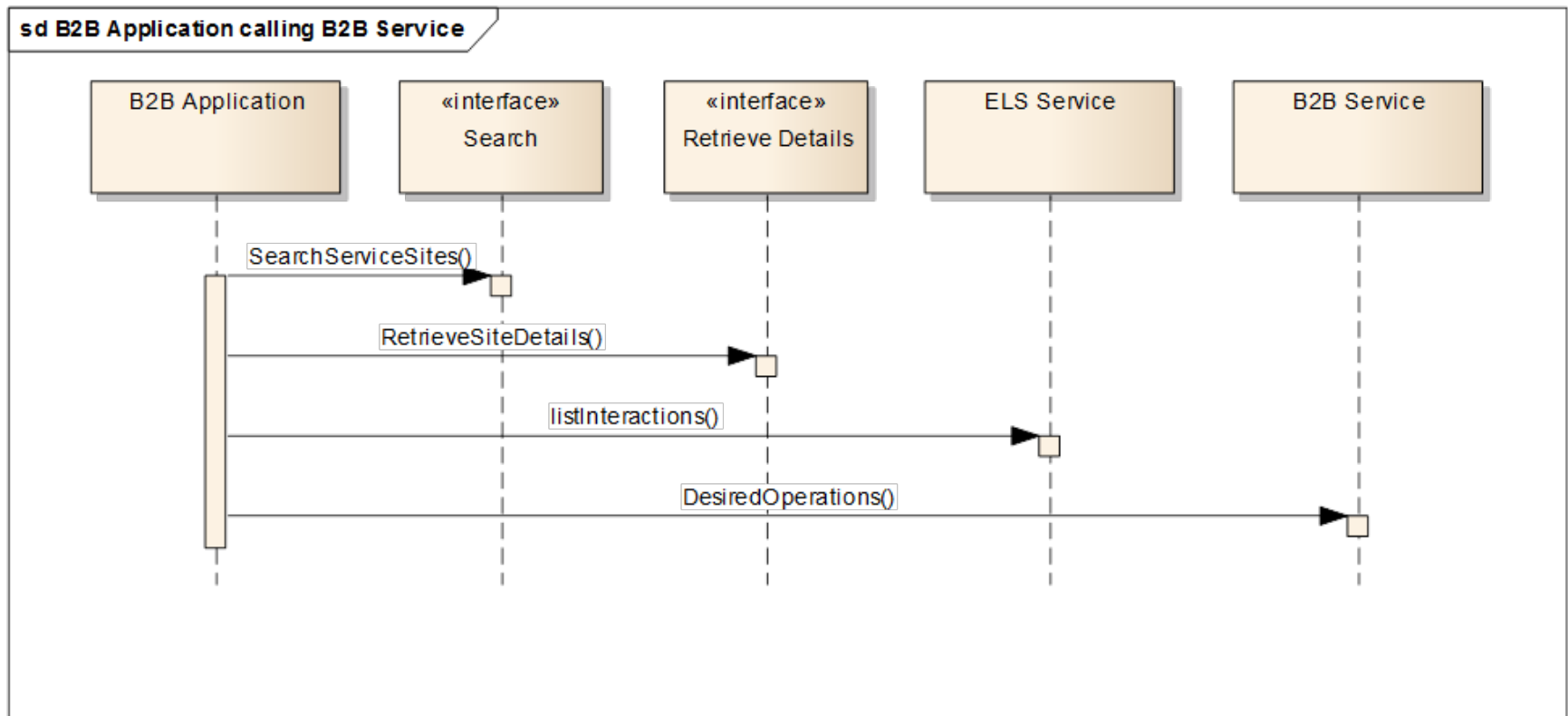
# Services Ontology - Issues

- Competing views on a standard for health and related services – leading to multiple implementations of service terminology

- Discovery process not suited to a hierachical code based search, e.g
  - Dentist
  - Dental surgeon
  - Oral surgeon
  - Orthodontist
  - Periodontist;  etc..

# Services Ontology - approach

- Need to dynamically translate between different codesets for search/retrieve purposes

- Discovery useability requirements
  - Incremental search
  - Fuzzy search
  - Codeset translation for similies
  - Results of a search return a list of suggested codes.
  - Browser integration (e.g Google, Bing )

# Use of CTS2 with ServD

- OMG standard "Common Terminology Services v2"
- Supports mapping between code sets across multiple domains
- Enables different service terminologies to co-exist across a federated ServD network.
- Enables code translations  to support interoperability between clinical applications using ServD services.
- Simplifies implementation by supporting multiple services terminologies

# Service Directory vs Provider Directory

- LDAP is commonly used mechanism to manage directories

- Provides a fast and effective mechanism to store information indexed by a provider within an organization (e.g a white pages service)

- Adopted for the IHE Healthcare Provider Directory (HPD) specification

- Useful when the provider is known.  (e.g a directory of staff within departments of an organization)

# ServD vs LDAP

ServD

LDAP

Organization

Site

Service Site — Provider
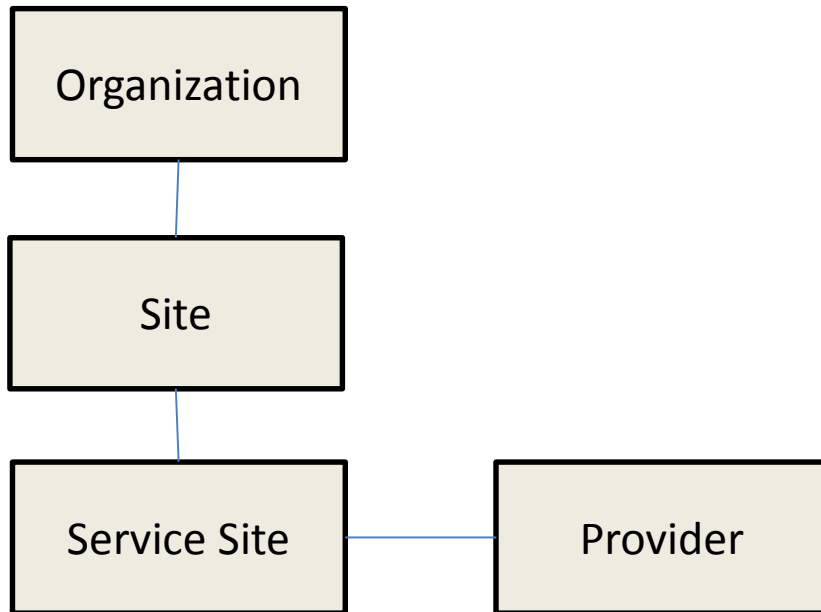
Organization
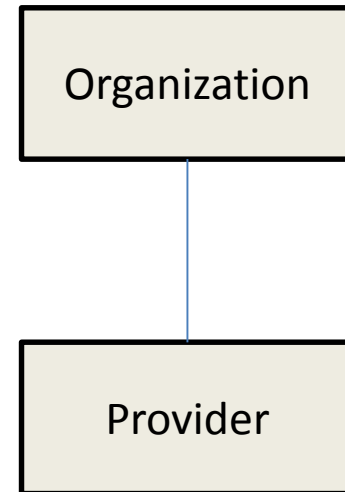
Provider

# Issues using LDAP/HPD

- Organization specialities may not reflect individual specialities e.g aged care hostel vs geriatrician.
- No mechanism to describe the services a provider supports at a site, or availability
  - E.g Dr Smith provides obstetrics at Clinic A on Wednesdays and a gynaecology at Clinic B on Thursdays
- Organization hierarchy often does not reflect the service delivery structure (particularly in large organizations with multiple locations) which leads to implementation complexities and irregularities
- Does not support:
  - Federation
  - Secure vs non secure access
  - Author/approver process
  - Verification

# SrvD vs HPD

- HPD works for single enterprise or small regional groups where entities are known
- HPD less useful for discovery and service related searches
- SrvD resolves issues of data security and federation
- SrvD more readily reflects the real world view of service delivery
- SrvD Services oriented object model is easier to use and implement at regional, state or national scale

# For more info on ServD

- Wiki site:

http://hssp-provider-services-directory.wikispaces.com/

- Issues register:

https://github.com/servd