

Efficient information exchange in agrifood — the harmonization challenge

Daniel Martini, Mario Schmitz, Martin Kunisch



Munich, 5th of October, 2011



EU

standards are increasingly being viewed as competitive weapons rather than as technological stabilizers.



Business

ebXML
XBRL

The nice thing about standards is that there are so many to choose from.

James Gosling



Regional Machinery

ISO 11783

Andy Tanenbaum (disputed)

Standards are always out of date. That's what makes them standards.

Supplier

Farmer

Transport

Processing

Retailer

Consumer

Field

GML, KML...



LPIS

Parcel

Alan Bennett

EPCIS

...

QS
EurepGap

...



Environment

People

Weather XML
SWE

vCard

XMeld

ISOBUS
task controller XML

DEX
FINTS
UBL

...

How to overcome the situation?

1. Generate awareness
2. Seek for technical solutions

Page areas

- ▶ Knowledge
- People
- ▶ Platform
- ▶ Project
- Forum
- Legal

User login

Username: *

Password: *

Log in

- Create new account
- Request new password (for existing account)

Search

Search this site:

Home

Welcome to the agriXchange project

agriXchange is a EU-funded coordination and support action to setup a network for developing a system for common data exchange in the agricultural sector.

Share and disseminate knowledge

This platform has been setup to support the agriXchange community to share knowledge on use cases, standards and implementations during and after the project and to disseminate this knowledge to other stakeholders.

Knowledge, People, Platform, Project

The collected data can be found in the page area "Knowledge".

Learn more about people involved in this project in the page area "People".

The platform itself and its ongoing development is described in the page area "Platform".

"Project" gives you more information about the agrixchange project.



News

Do you like the colour scheme of the agriXchange website?

2011-06-22 12:02

Esther

Log book of activities

2011-04-12 06:42

sjaak.wolfert

Fieldtrip to Foodstuffs, Kitchener Park and a dairy farmer

2011-03-03 03:20

sjaak.wolfert

Use - Cases : Do we need Guidelines ?

2011-03-07 14:56

m.schmitz

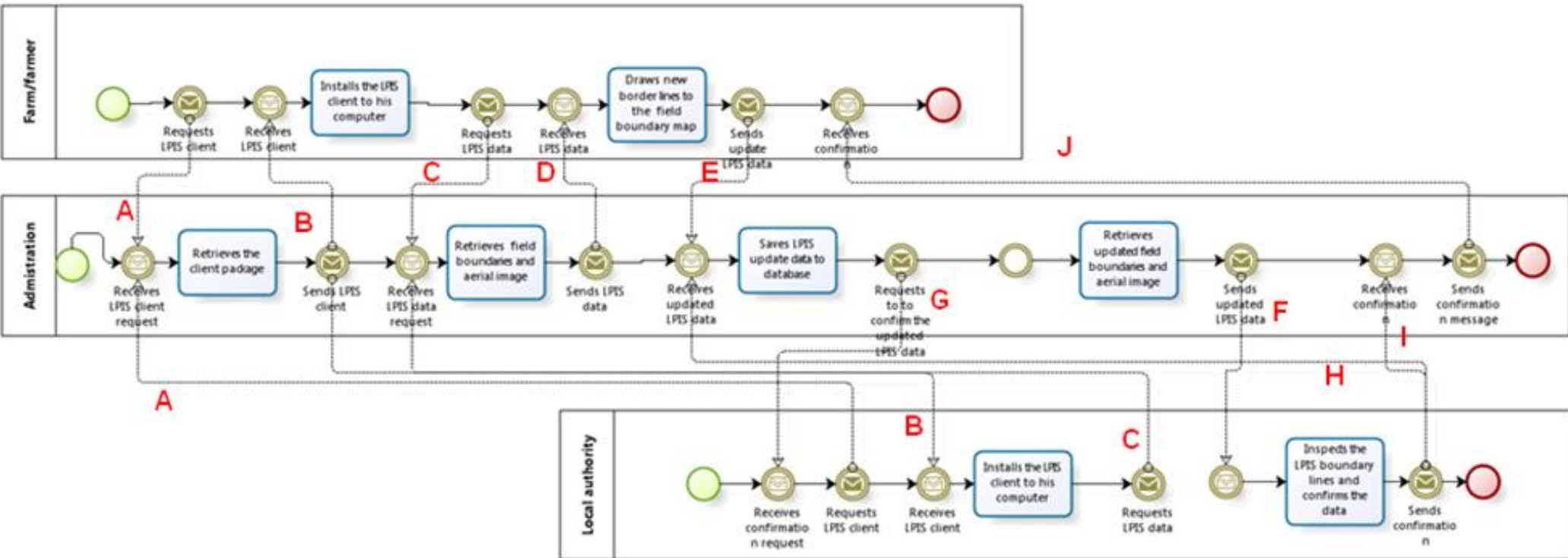


Events

agriXchange session – EFITA congress

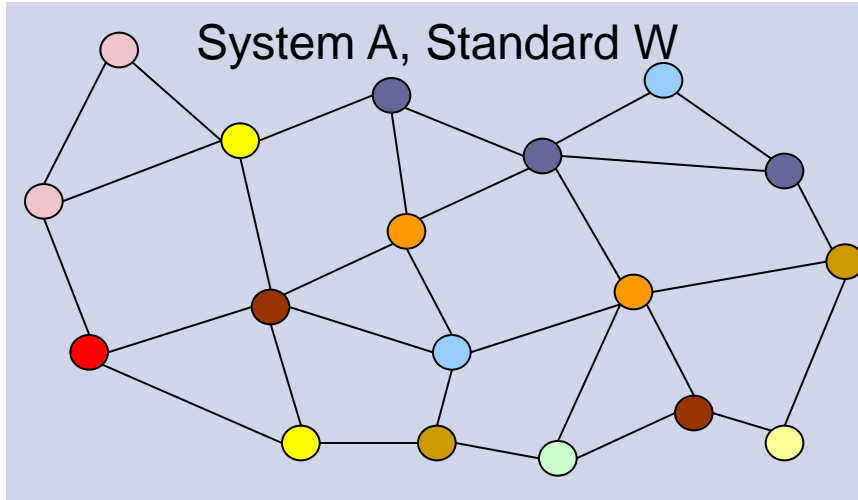
Prague, 12 July 2011

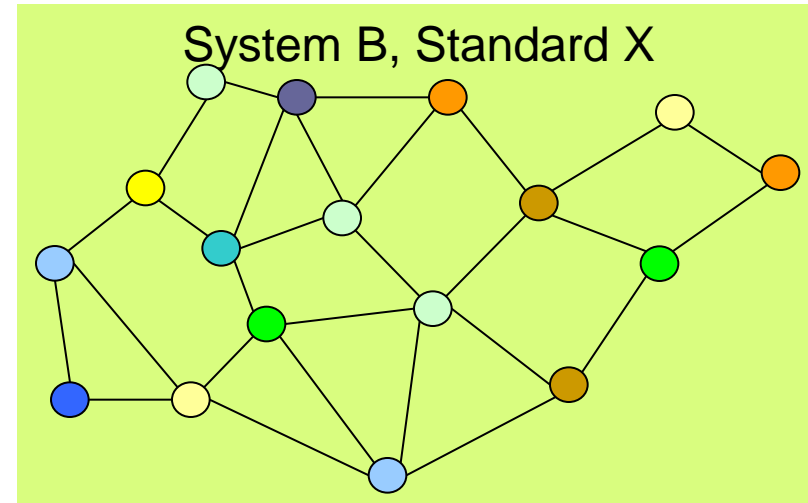
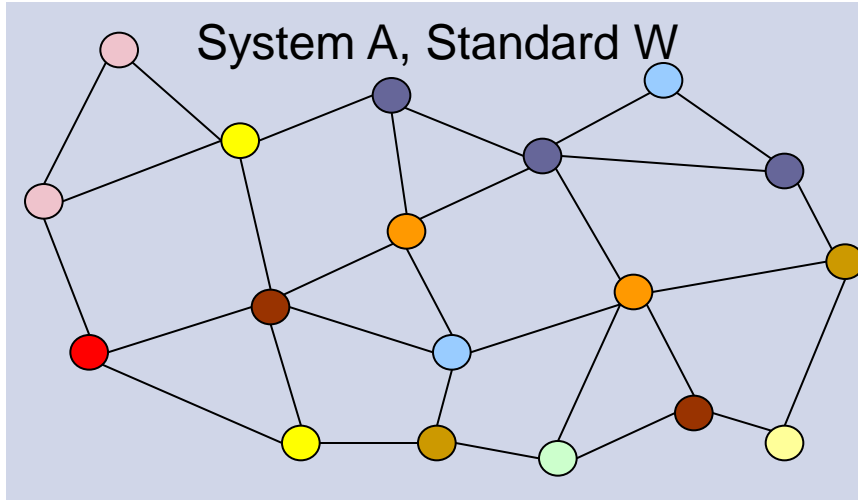
The agriXchange project team is



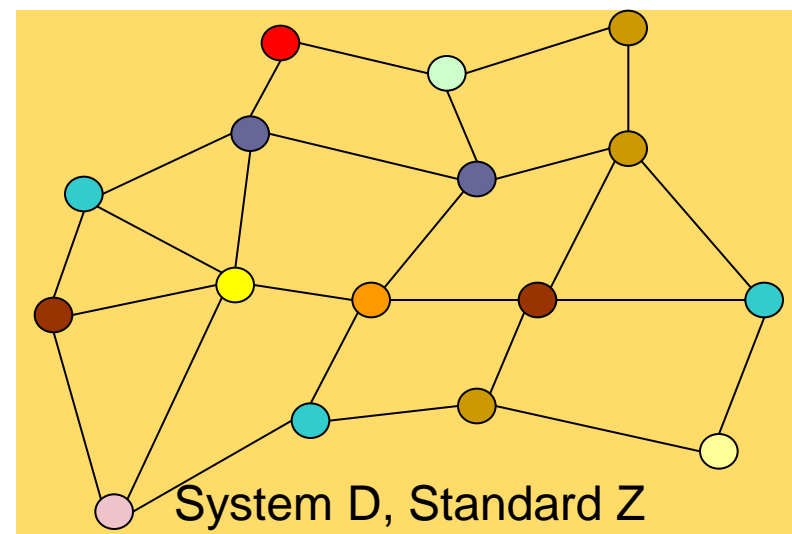
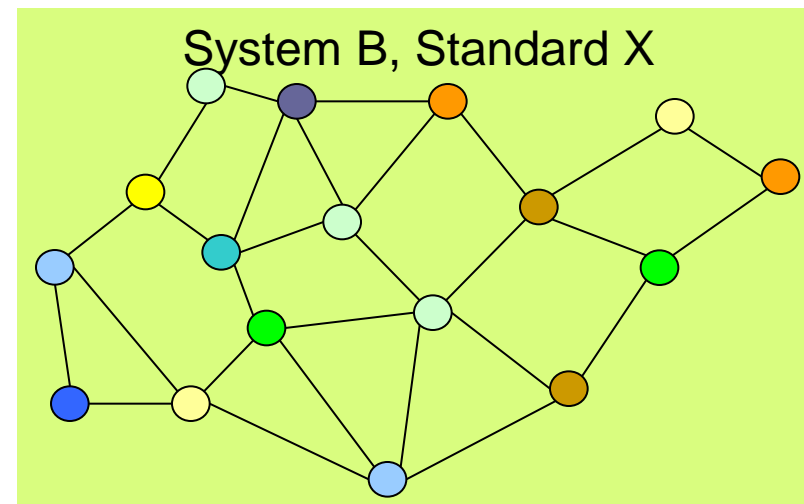
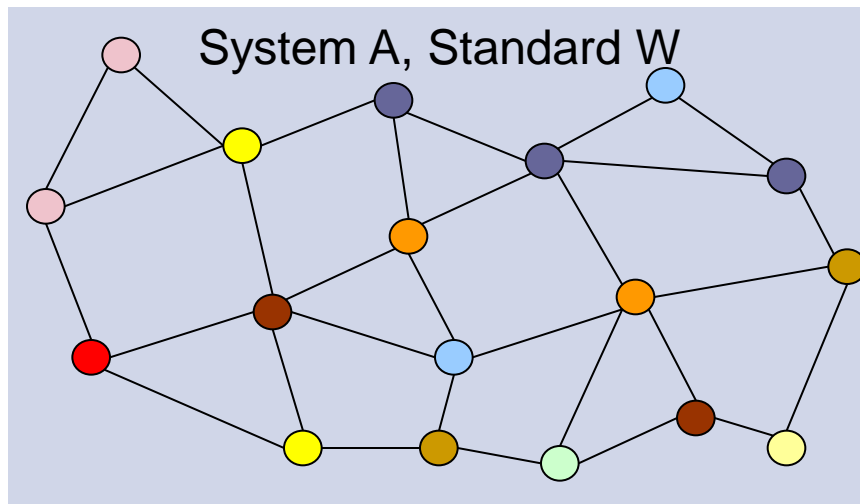
Interfaces

- Communication Channel
 - Electronic
 - Non-electronic
- Physical media
 - Fixed
 - Short range wireless
 - Long range wireless
 - ...
- Transaction format
 - XML
 - ADIS/ADED
 - ...
- Standards used

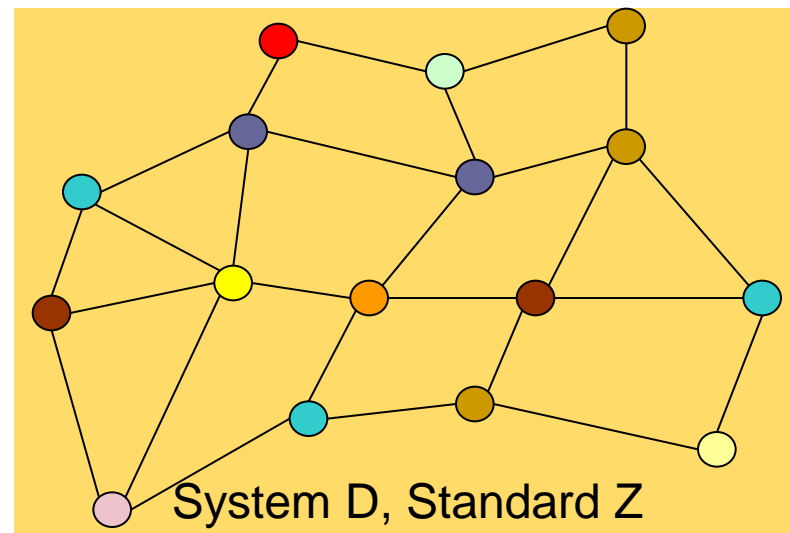
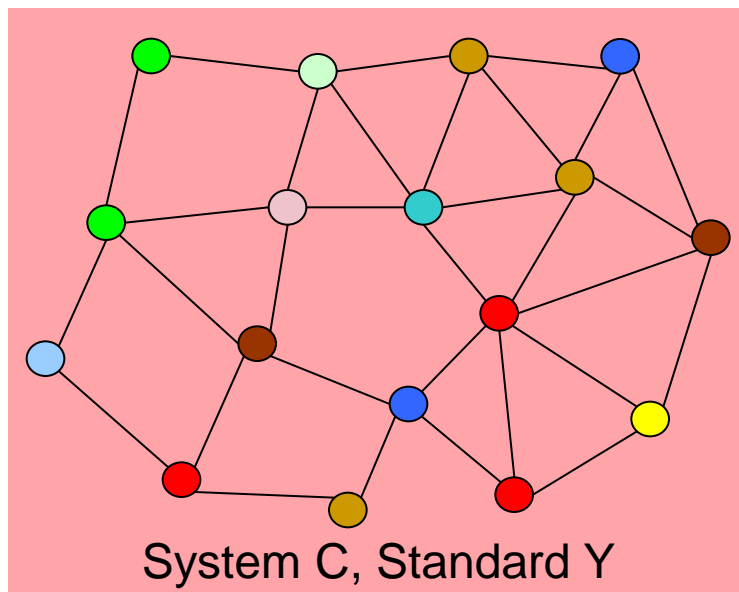
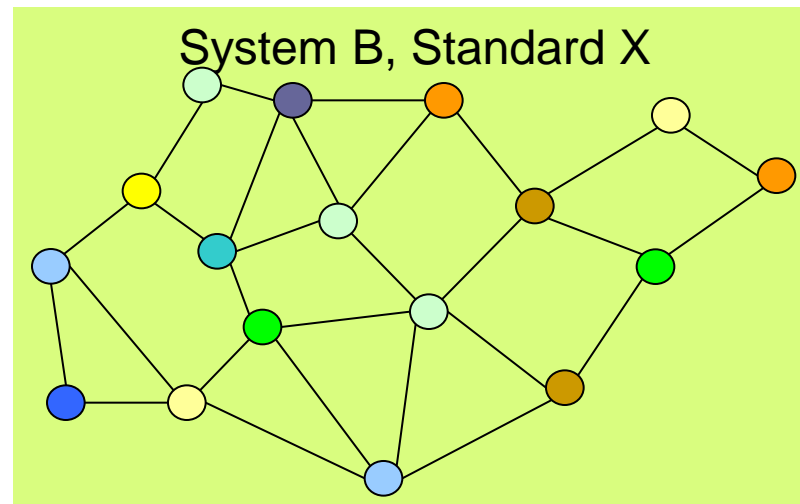
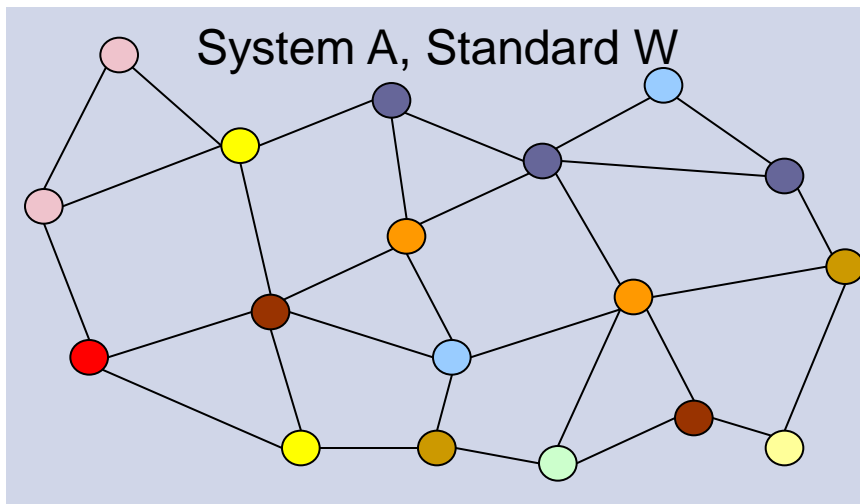


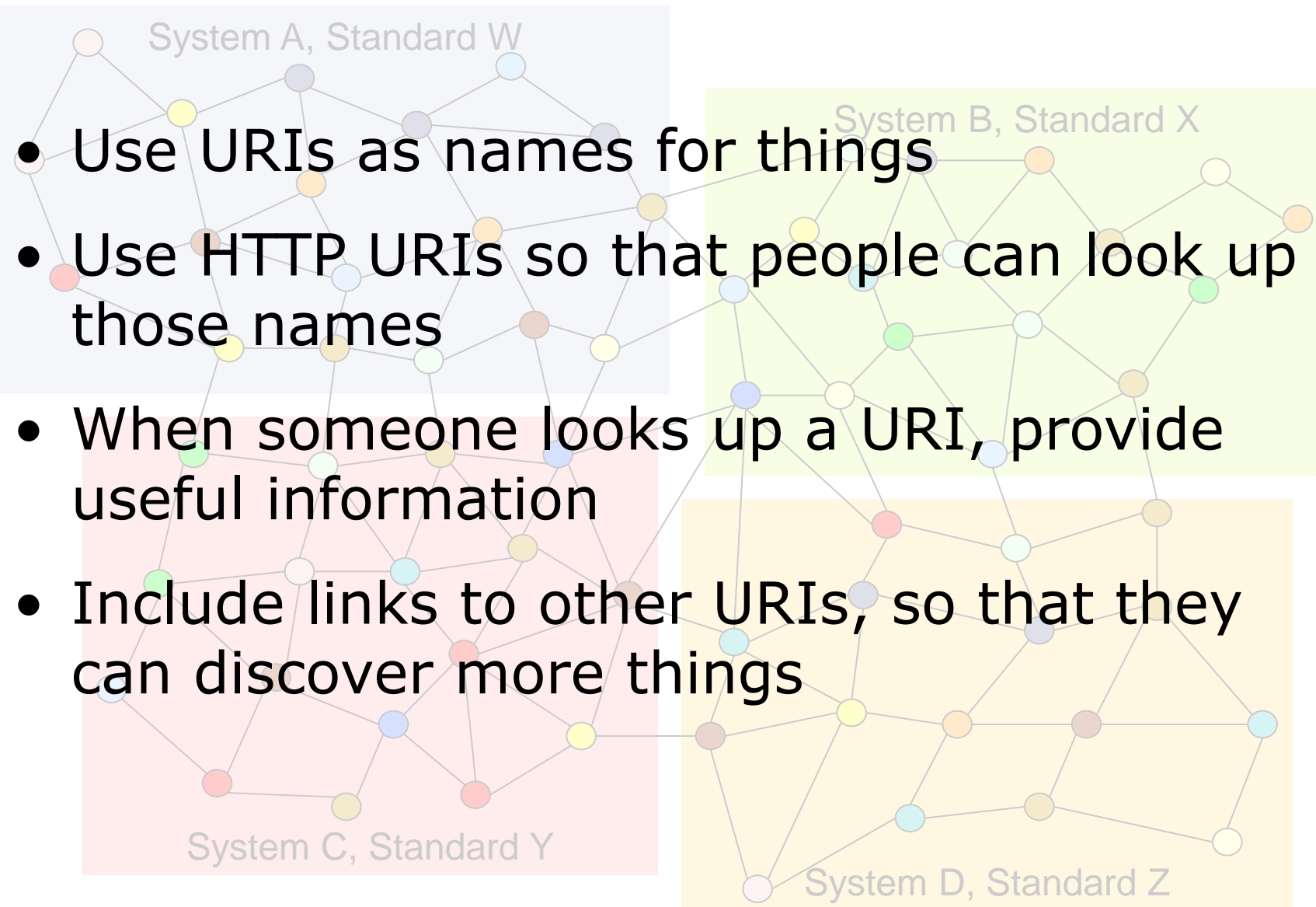


Networking everything...

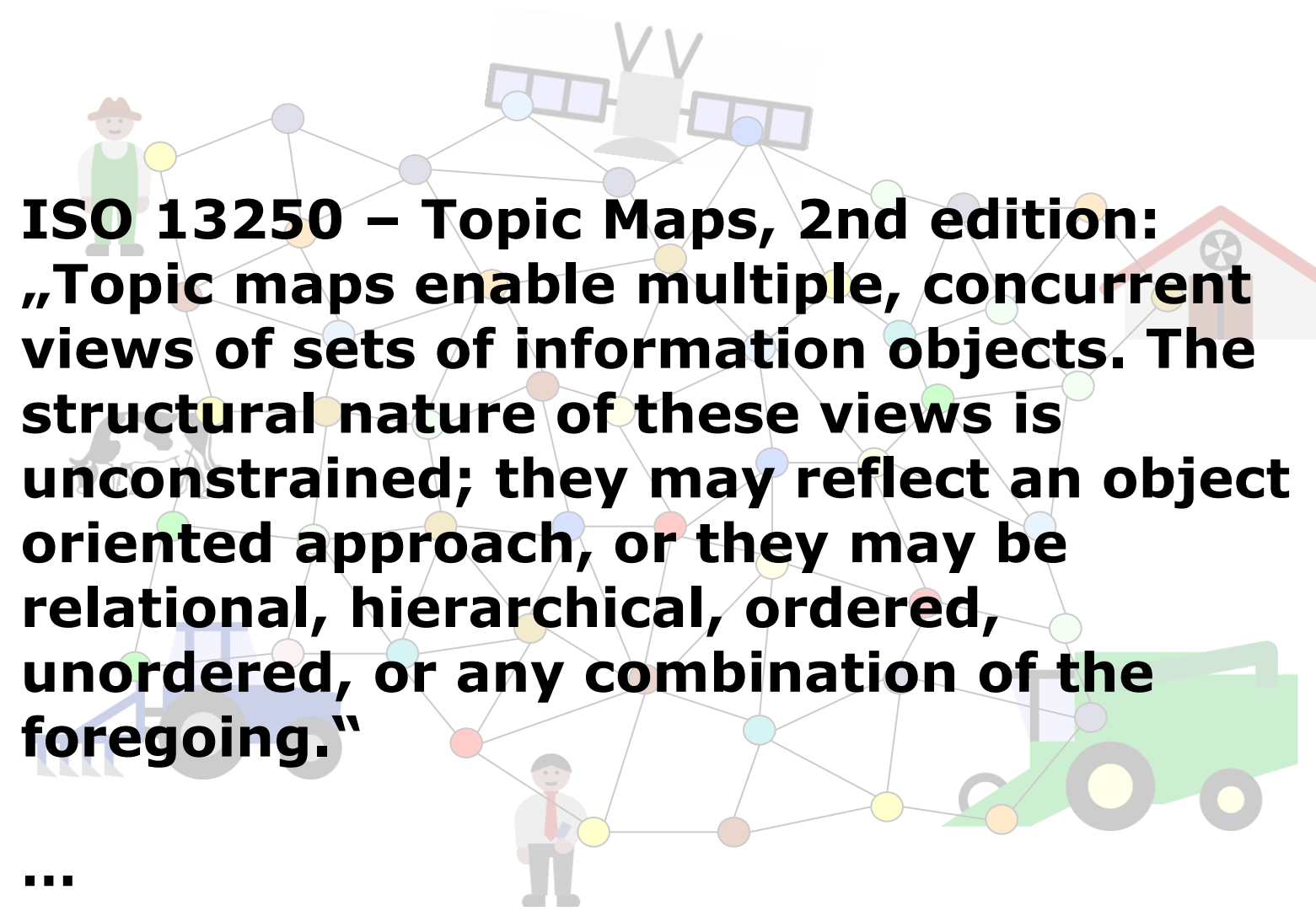


Networking everything...



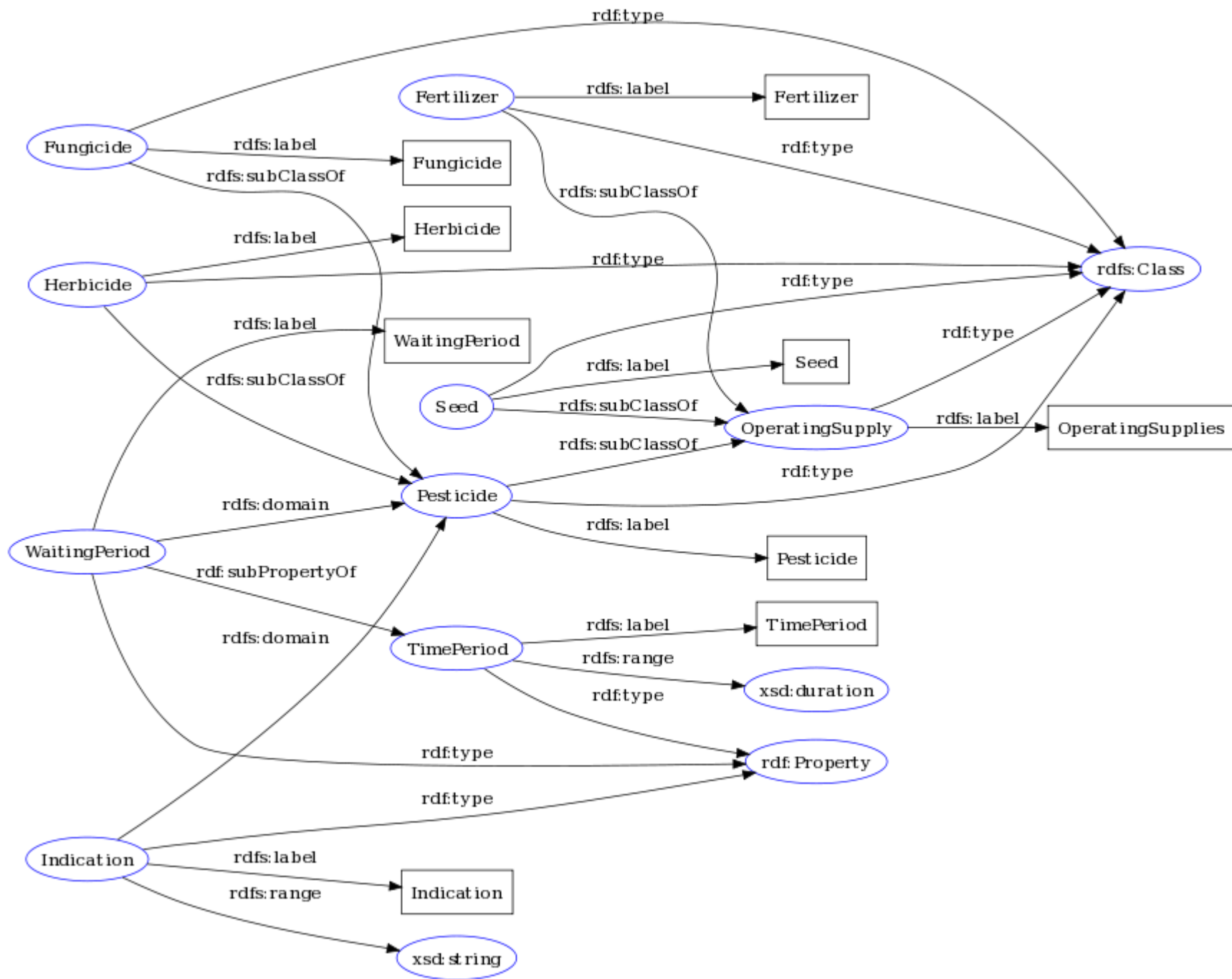


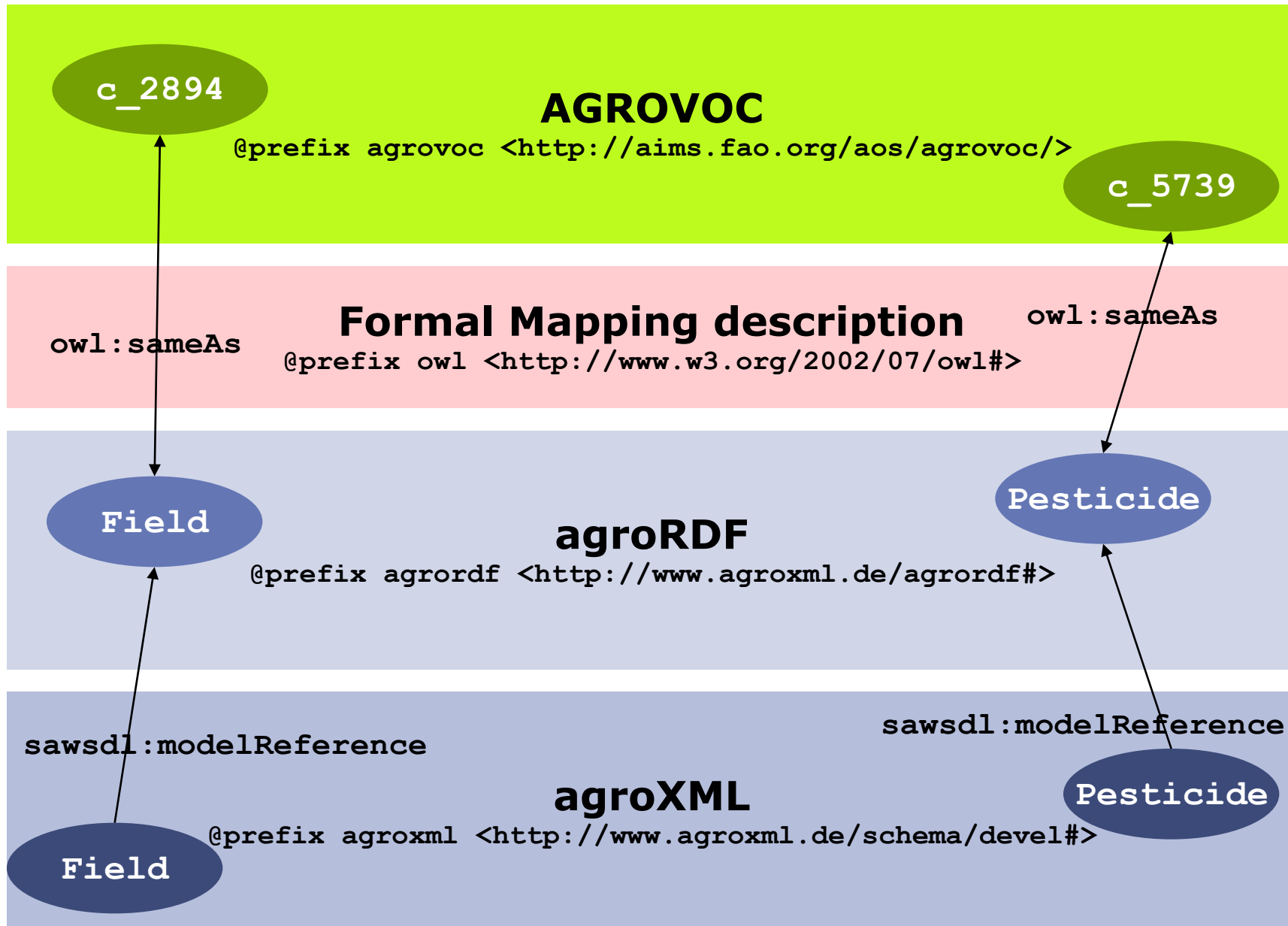
- Use URIs as names for things
- Use HTTP URIs so that people can look up those names
- When someone looks up a URI, provide useful information
- Include links to other URIs, so that they can discover more things



ISO 13250 – Topic Maps, 2nd edition:
„Topic maps enable multiple, concurrent views of sets of information objects. The structural nature of these views is unconstrained; they may reflect an object oriented approach, or they may be relational, hierarchical, ordered, unordered, or any combination of the foregoing.“

...





FOAF

```
@prefix foaf <http://xmlns.com/foaf/0.1/>
```

```
owl:sameAs
```

Formal Mapping description

```
@prefix owl <http://www.w3.org/2002/07/owl#>
```

```
owl:sameAs
```

agroRDF

```
@prefix agrordf <http://www.agroxml.de/agrordf/>
```

```
sawsdl:modelReference
```

```
sawsdl:modelReference
```

agroXML

```
@prefix agroxml <http://www.agroxml.de/schema/devel#>
```

AGROVOC

```
@prefix agrovoc <http://aims.fao.org/aos/agrovoc/>
```

owl:sameAs

Formal Mapping description

owl:sameAs

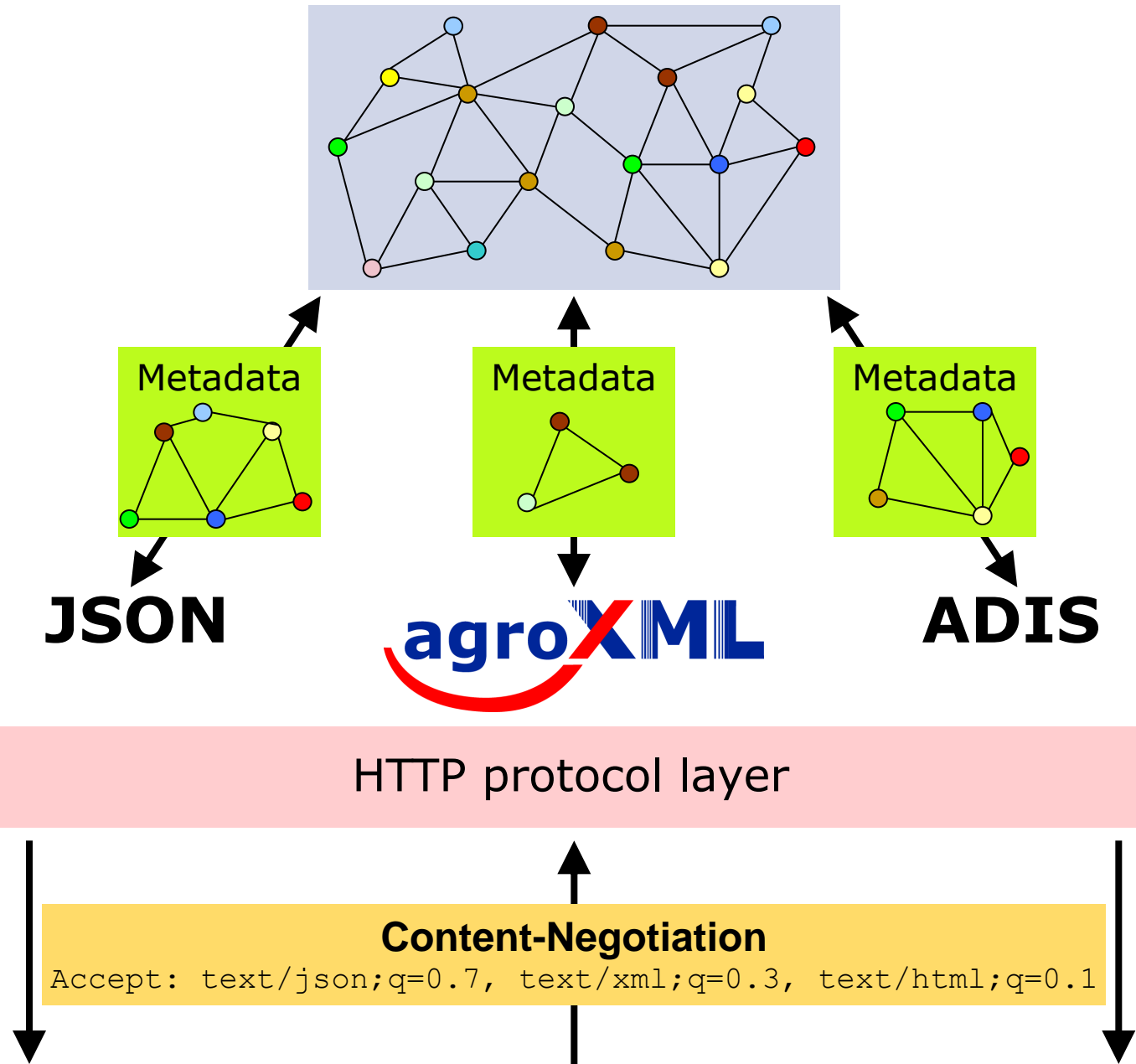
```
@prefix owl <http://www.w3.org/2002/07/owl#>
```

ISOBUS XML formal semantics

```
@prefix isobusrdf <http://www.whatever.org/>
```

ISO 11783 Task Controller XML + Data Dictionary

Supporting different serializations



Anarchic scalability

„Most software systems are created with the implicit assumption that the entire system is under the control of one entity, or at least that all entities participating within a system are acting towards a common goal and not at cross-purposes. Such an assumption cannot be safely made when the system runs openly on the Internet.

[...]

Clients cannot be expected to maintain knowledge of all servers. Servers cannot be expected to retain knowledge of state across requests.“

Roy Thomas Fielding (2000): Architectural Styles and the Design of Network-based Software Architectures.