SDShare

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SDShare

A protocol for publishing and consuming data in an open world environment.

Going the way of the web...

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BBC News - Home

The latest stories from the Home section of the BBC News web site.

Cameron to face MPs over EU veto
12 December 2011 10:17

David Cameron will face MPs later to explain his decision to veto EU treaty changes - a decision his coalition partners say was bad for Britain.

RBS woes caused by poor decisions
12 December 2011 08:43

RBS nearly collapsed in 2008 because of poor management decisions and poor regulation, a report from its regulator says.

Four bodies are found at property
12 December 2011 09:09

A property in Leeds is sealed off and searched for the presence of harmful gases or chemicals after four bodies are found inside.

Uprising overshadows Syria polls
12 December 2011 09:00

Syria holds local elections despite an opposition boycott and continuing violence between security forces and protesters.

Bahraini king visits UK for talks
12 December 2011 05:28

The king of Bahrain makes a visit to the UK for talks with Prime Minister David Cameron, in an effort to improve relations following the Arab Spring.

CNN.com - Europe

CNN.com delivers up-to-the-minute news and information on the latest top stories, weather, entertainment, politics and more.

Medvedev orders election investigation
11 December 2011 17:17

Russian President Dmitry Medvedev has called for a probe into allegations of vote fraud over recent parliamentary elections, according to a message posted on his Facebook page.

143 arrested in London over Congo protests
11 December 2011 17:59

At least 143 people were arrested in London following protests over elections in the Democratic Republic of the Congo, British authorities said.

Ex-Panama leader Noriega extradited from France
11 December 2011 15:33

Former dictator Manuel Noriega left France for Panama on Sunday, nearly 22 years after U.S. forces forcibly removed him from office, a CNN affiliate reported.

Police: 100 snakes found in German hotel
11 December 2011 00:15

Police arrested three Chinese nationals after authorities uncovered about 100 snakes, 70 tortoises and 20 neon-colored frogs in their hotel room in western Germany, according to a police spokesman.

Golf: Donald makes history with 'double top'
11 December 2011 14:59

Making Data Free

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SDShare

Aims to change the way data integration and sharing occurs.

How can we apply these web concepts about human content to data?

Web Services Integration
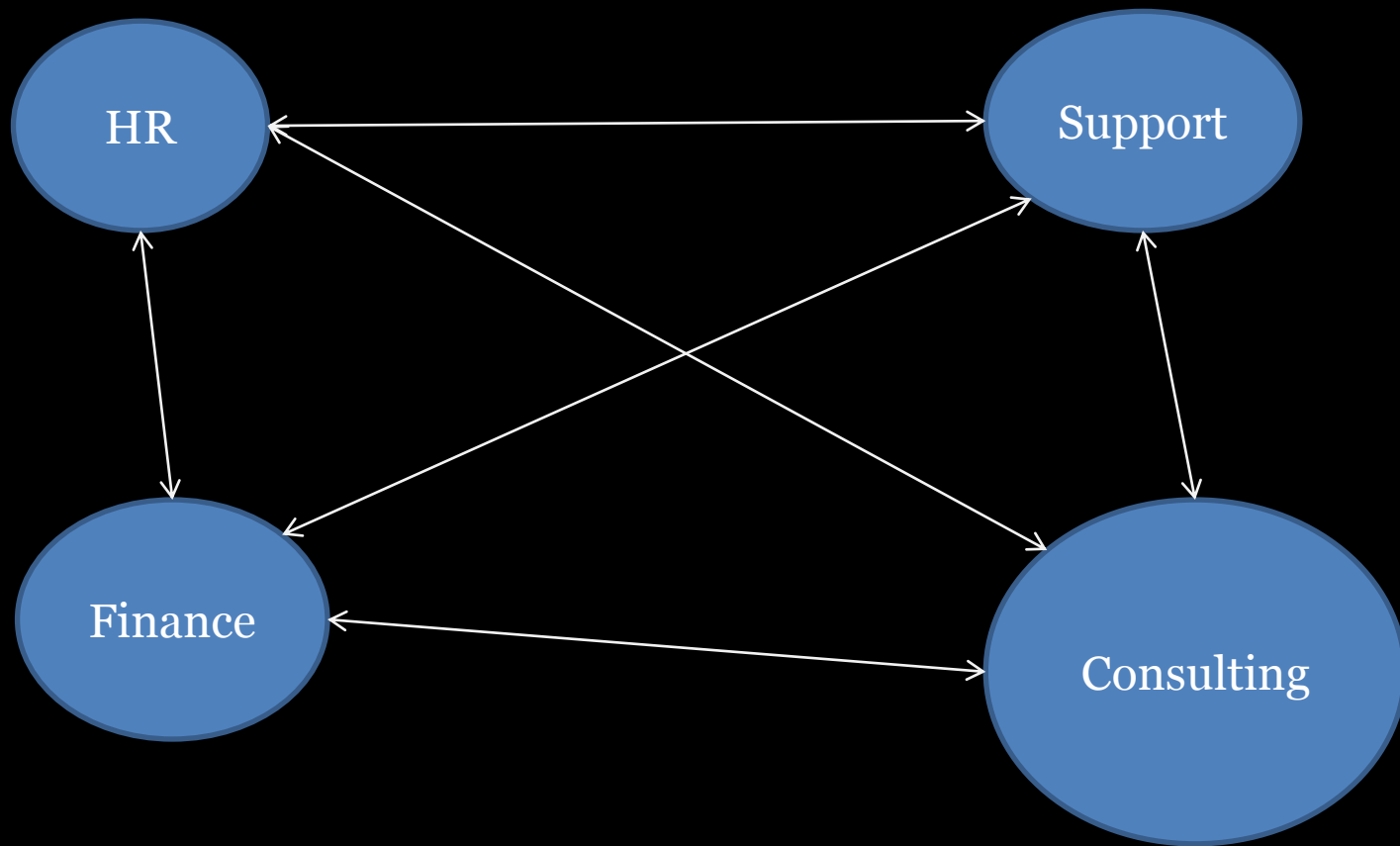
Web Services Integration

Point to Point with little consideration for other requirements

Data structure is fixed using XML Schema

Resources are not addressable, thus no URIs for fetching the information.

Functional rather than data integration

Web Services Integration

Change is Expensive

Data cannot be merged without special case code

SDShare Integration and Data Flow
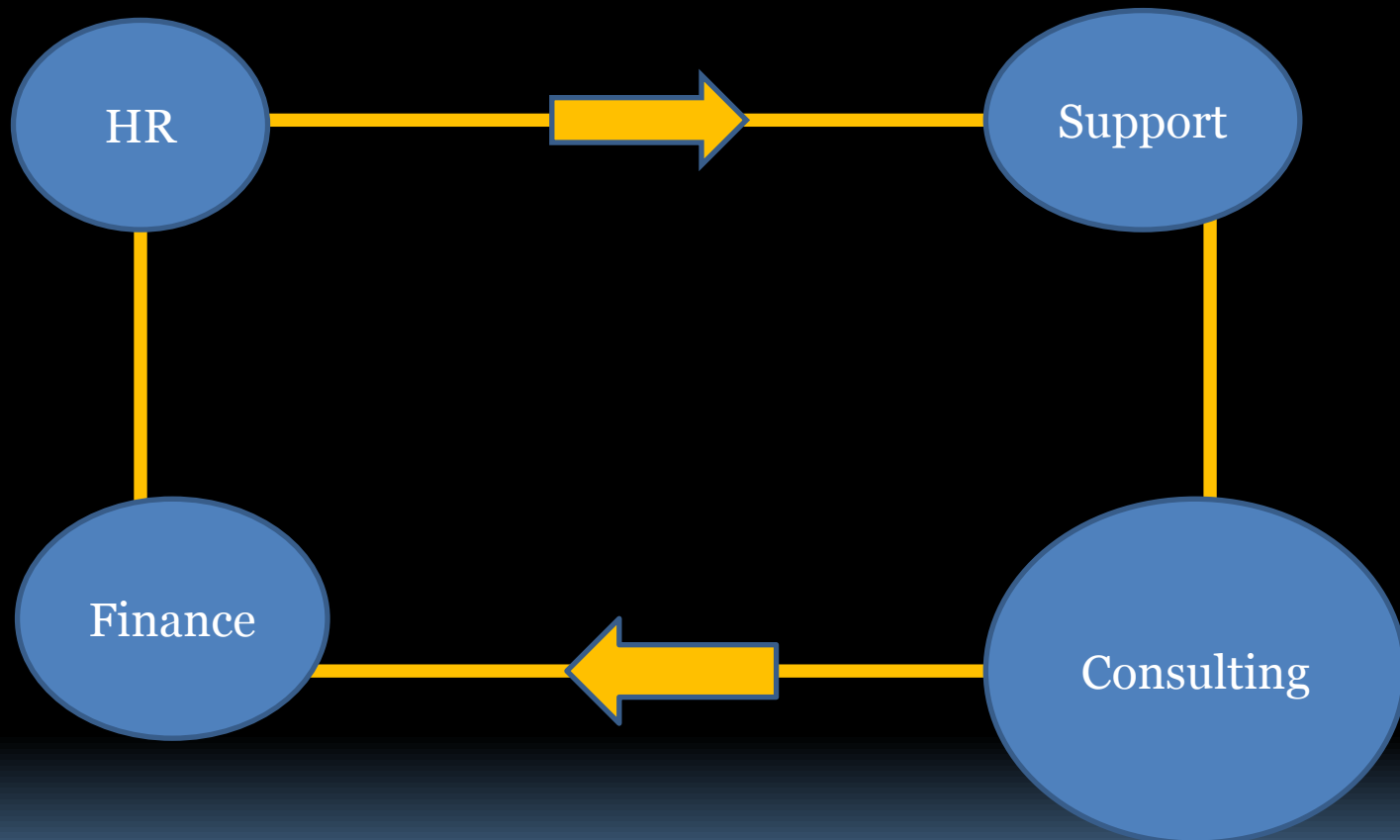
SDShare Integration and Flow
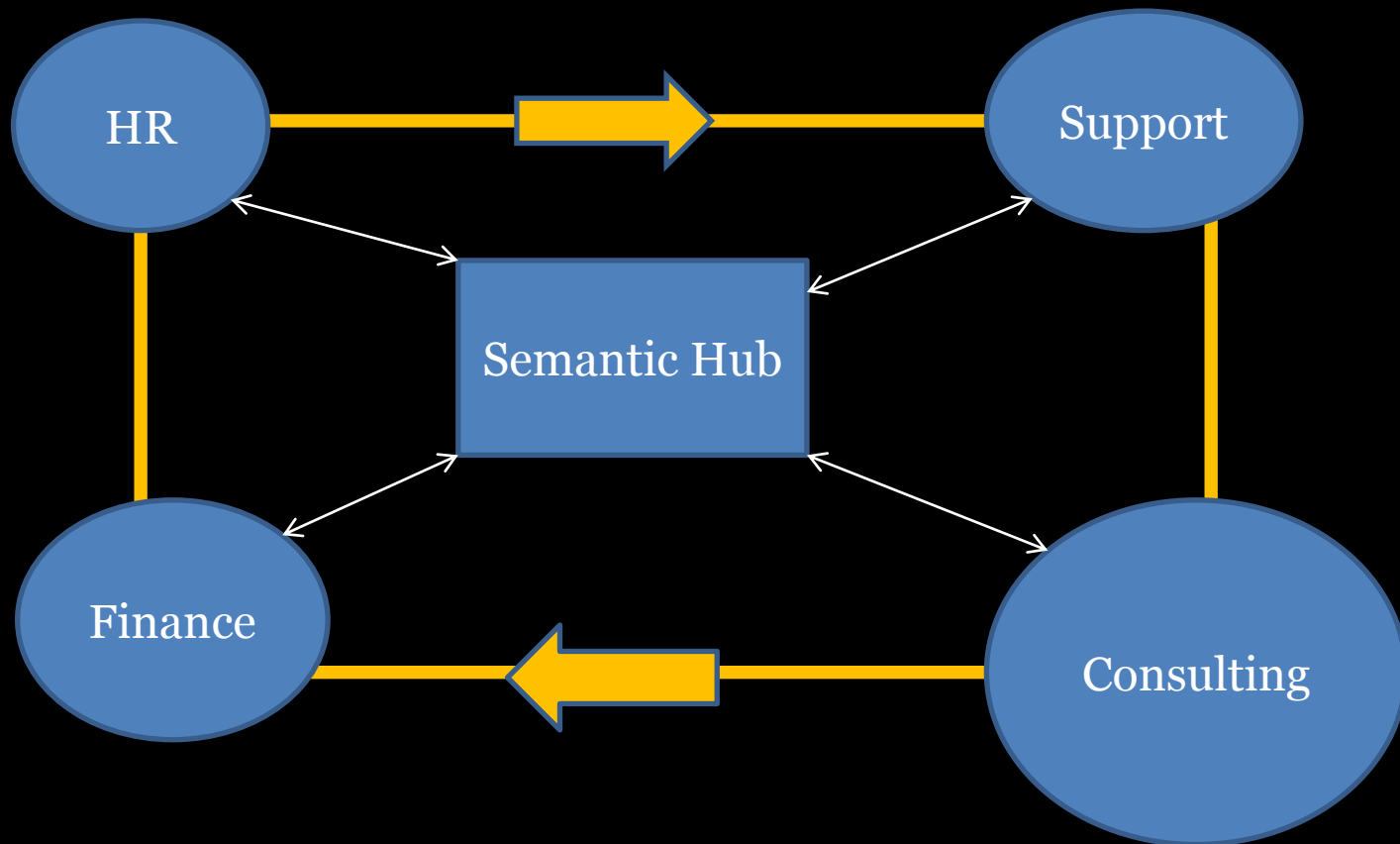
Change is not simple
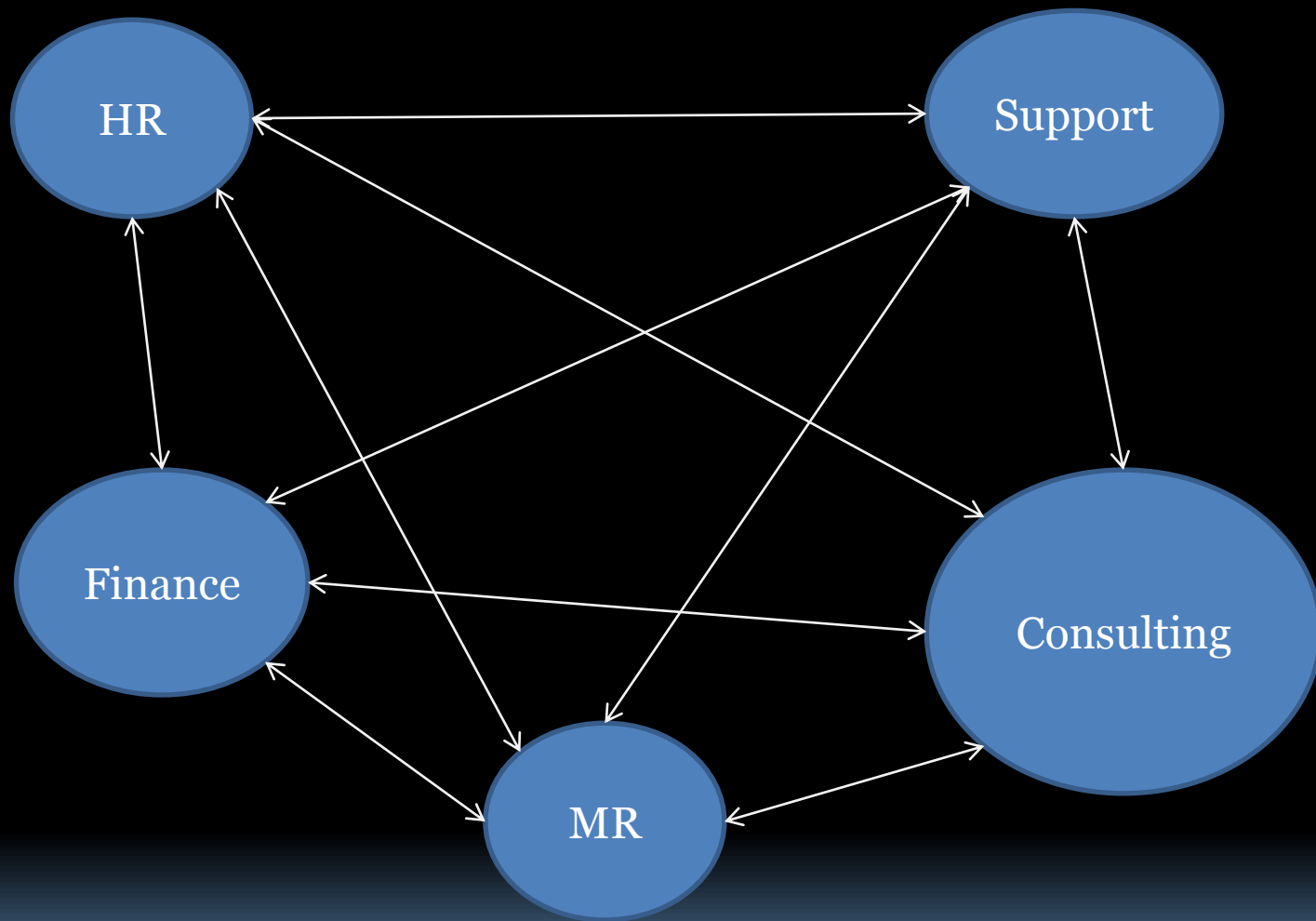
SDShare Change is Simple
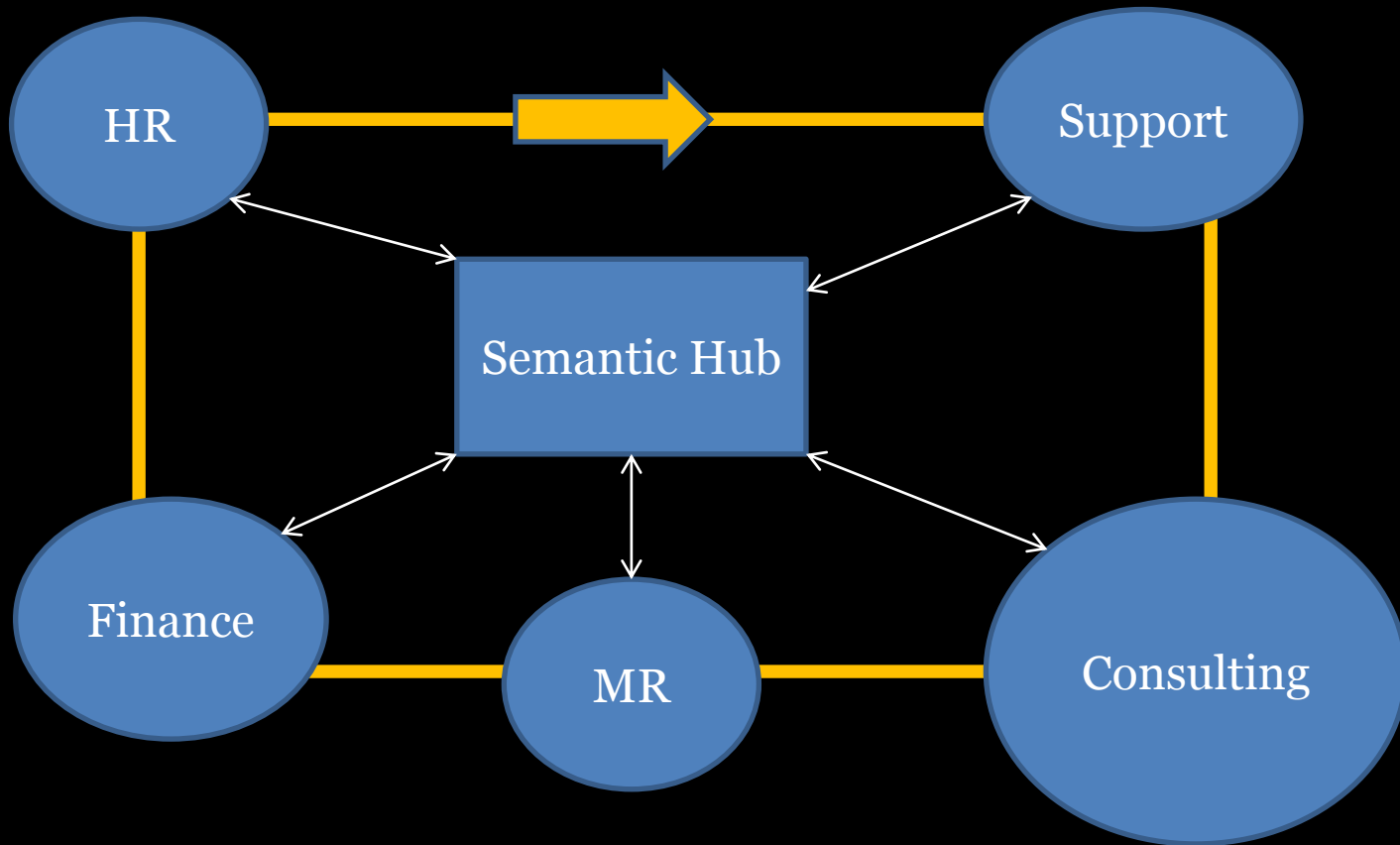
Goals of SD-Share

- Expose data for consumption by multiple clients
- Utilise open standards
- Be agnostic to data structure and format, schema-less on client and server
- Support peer-to-peer sharing not just client server
- Remember where data came from
- Support scalable data synchronisation
- Support bootstrapping of new 'client' nodes
- Low barrier to entry

SD-Share Protocol

Originally developed as part of the CEN eGovernment Workshop. Published as a CEN Workshop Agreement (CWA).

http://www.egovpt.org/fg/CWA_Part_1b

SDShare Protocol

Plan is to make SDShare an ISO standard.

SDShare Protocol Overview

The protocol uses ATOM feeds as a way to expose dataset snapshots and data entities from a source system.

A client processes the ATOM feed and for each entity entry updates it's local store. Entities are published as RDF or XTM.

This is a simple pull system where all entities are addressable as web resources.

SDShare Server Organization
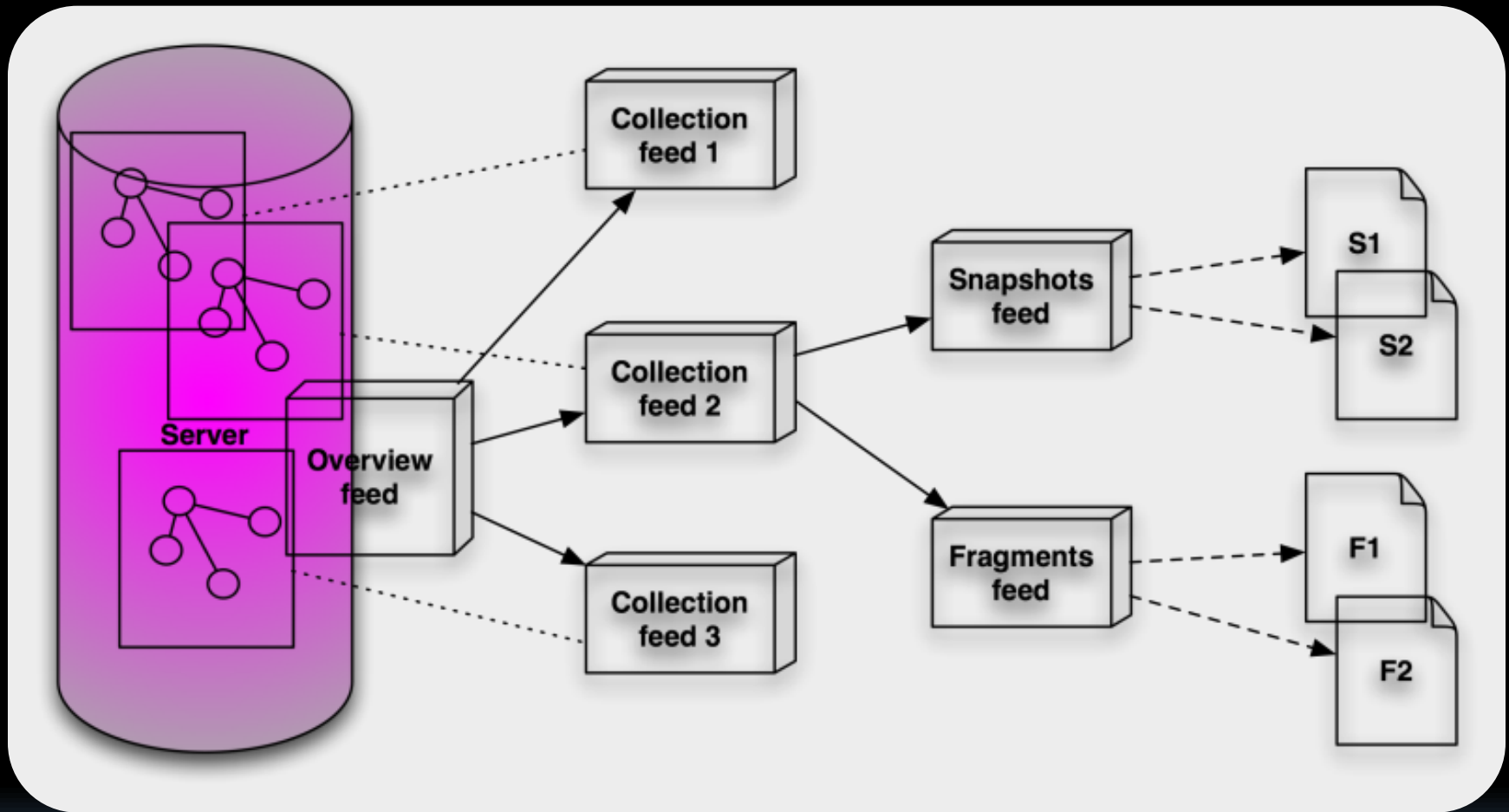
SDShare Client Interaction
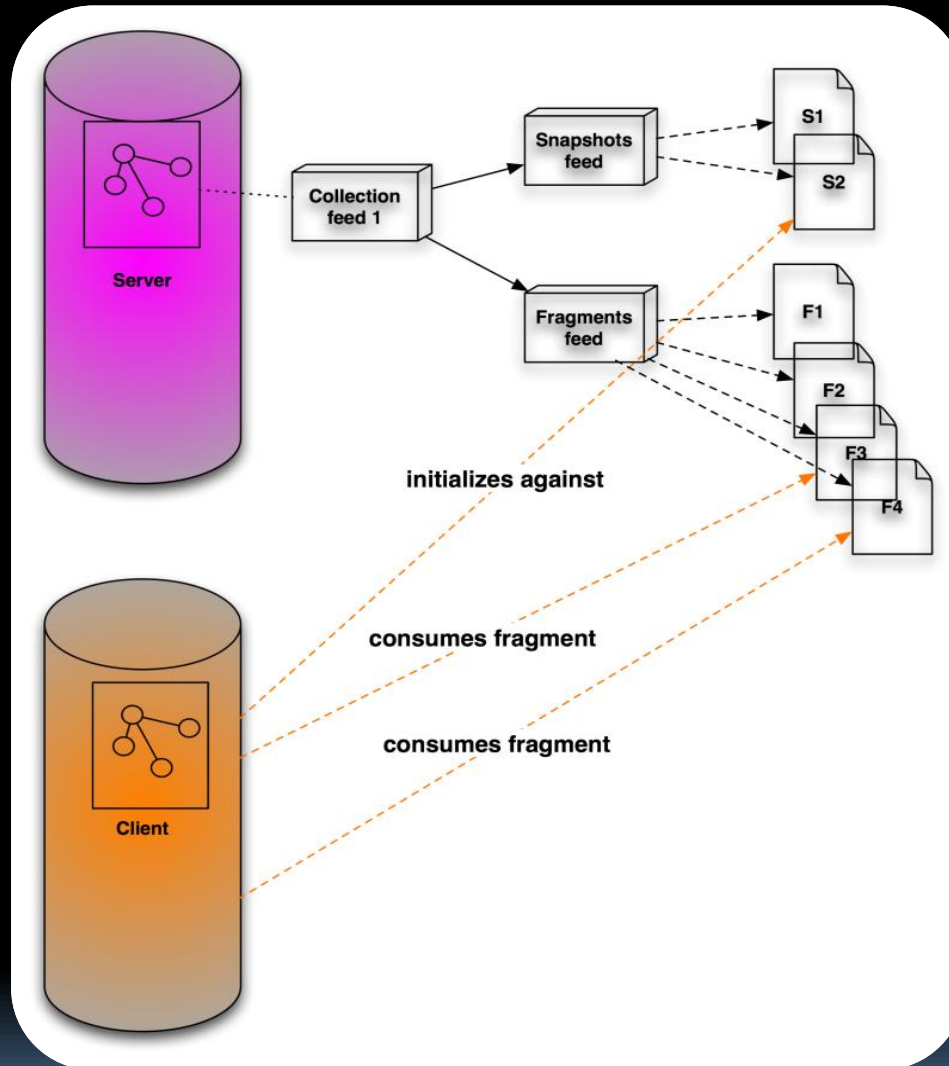
SDShare Collections Feed

SDShare Collection Feed

SDShare Snapshots Feed

SD-Share Fragments Feed

Fragments Since

http://localhost/sdshare/PublishingService.svc/collections/Employee%20Data/fragments?since=2011-12-3T00:00:00

SD-Share Fragment

http://localhost/sdshare/PublishingService.svc/collections/Employee%20Data/fragment?id=http://psi.np.com/sys1/people/3


```
localhost/sdshare/PublishingService.svc/collections/Employee Data/fragment?id=http://psi.np.com/s    ☆ ▾ ℃    ⚹ ▾ Google

<http://psi.np.com/sys1/people/3> <http://psi.np.com/schema/label> "Axel" .
<http://psi.np.com/sys1/people/3> <http://psi.np.com/schema/typeof> <http://psi.np.com/schema/person> .
<http://psi.np.com/sys1/people/3> <http://psi.np.com/schema/id> "3" .
<http://psi.np.com/sys1/people/3> <http://psi.np.com/schema/name> "Axel" .
```

SDShare Simples

All Data exposes and accessed via ATOM, and URLs

All Data represented using RDF or XTM

SD-Share Fragment Merging
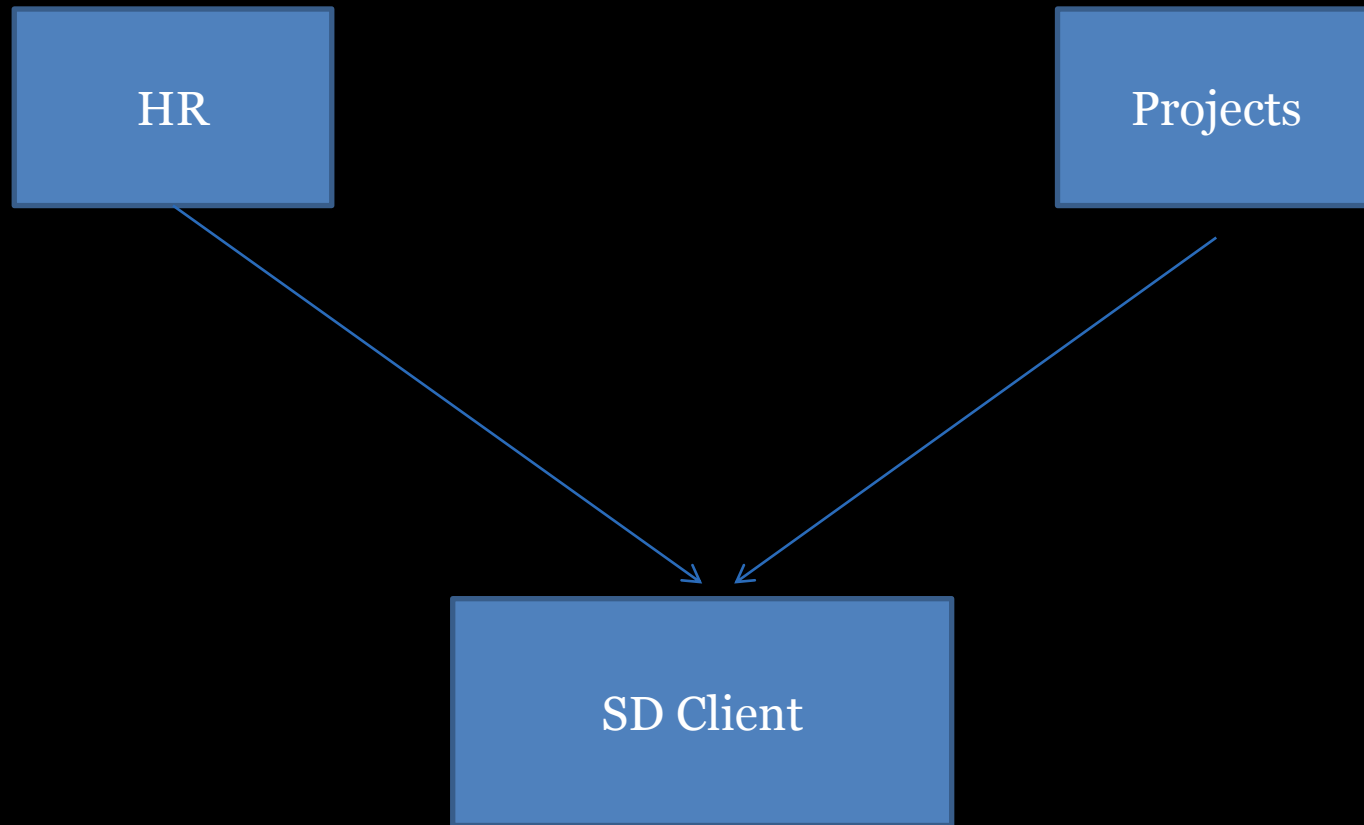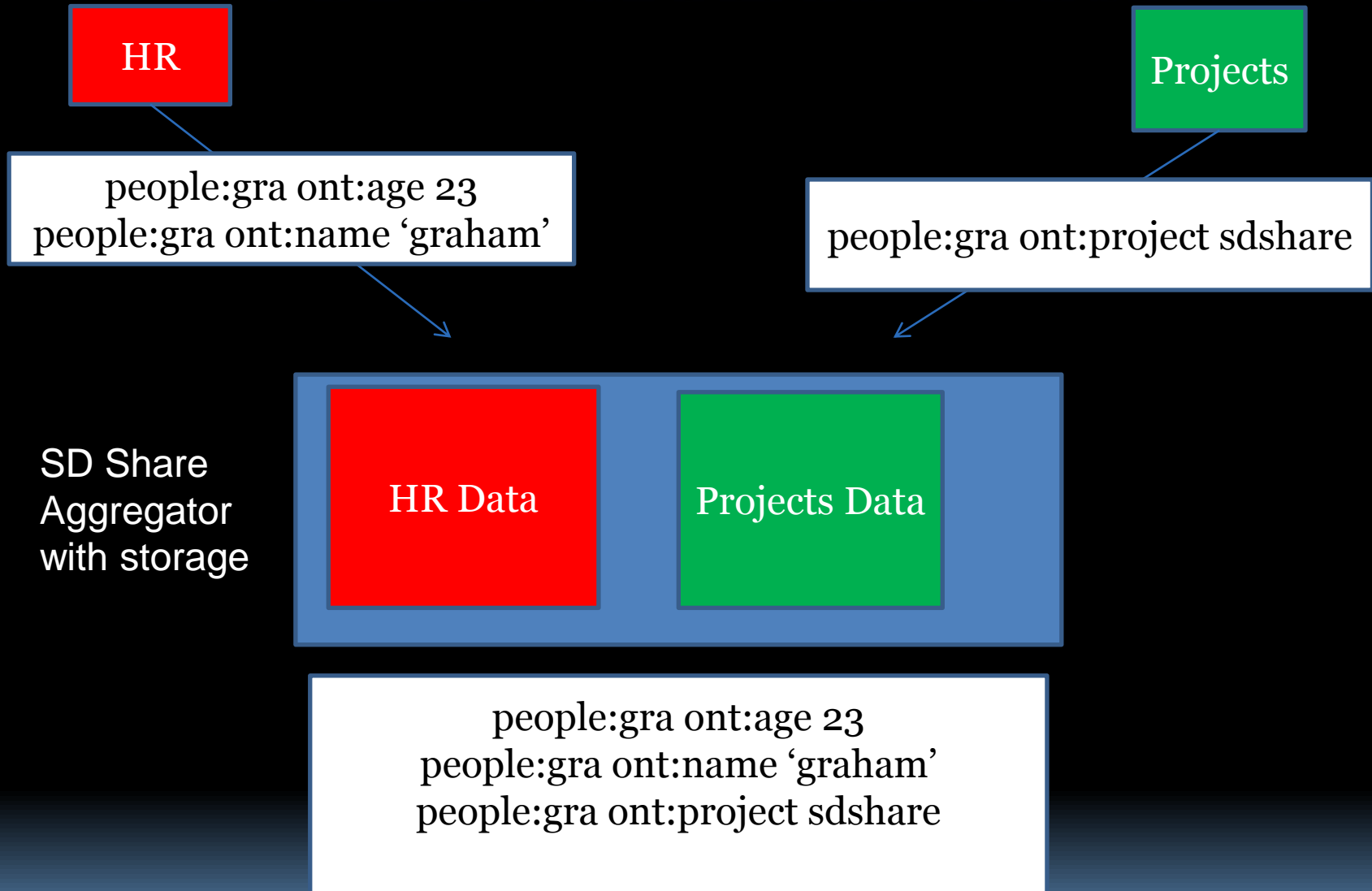
HR

Projects

SD Client

SD-Share Fragment Merging

HR

Projects

people:gra ont:age 23
people:gra ont:name 'graham'

people:gra ont:project sdshare

SD Share
Aggregator
with storage

HR Data

Projects Data

people:gra ont:age 23
people:gra ont:name 'graham'
people:gra ont:project sdshare

SD-Share System Consumer

HR | SD Server → SD Client | Projects

SD-Share System Consumer

HR | SD Server → SD Client | Projects
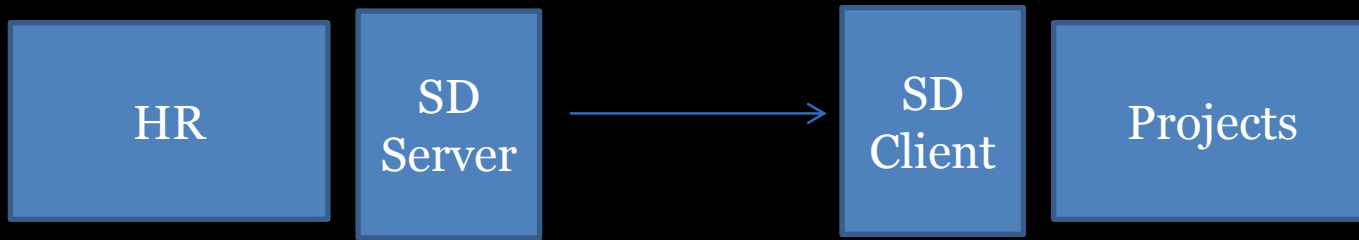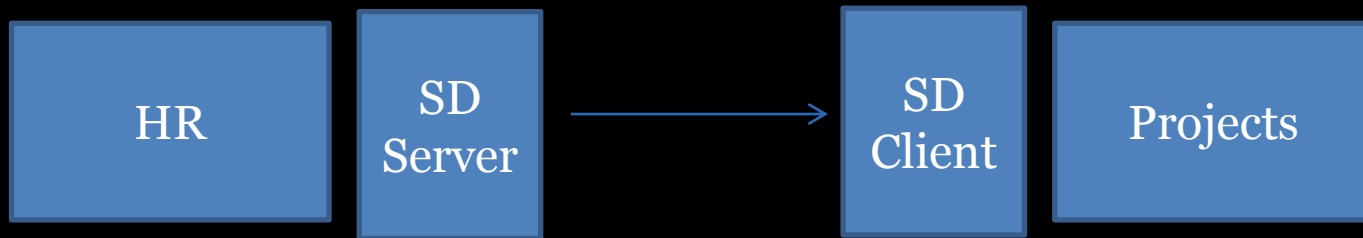
people:gra ont:age 23
people:gra ont:name 'graham

ID	NAME
Gra	graham

SD-Share System Consumer

Aggregated Store | SD Server ⟶ SD Client | Projects
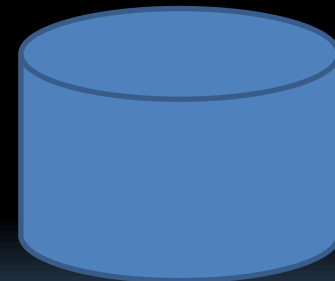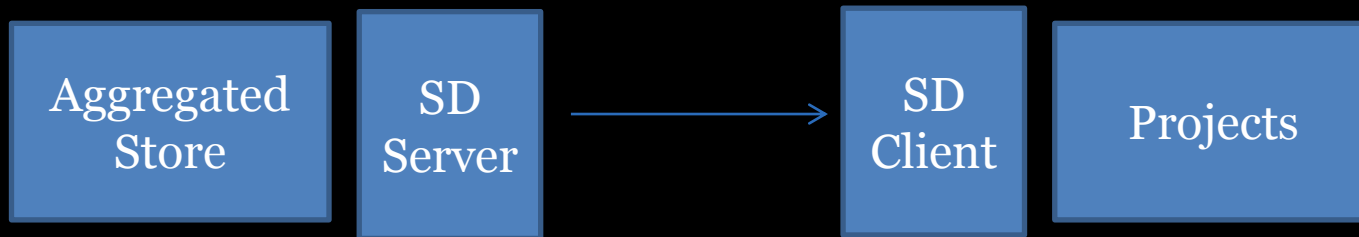
people:gra ont:age 23
people:gra ont:name 'graham
people:gra ont:skill 'sdshare'
people:gra ont:skill 'rdf'

ID	NAME
Gra	graham
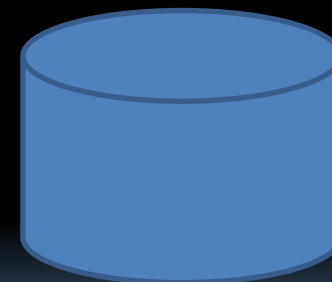
Use Cases

Master Data Syndication

Information/Data Integration

Data Aggregation

Master Data Syndication

Propagation of Master Data

- Helps with the use of common identifiers and terms in different systems
- MDM store manages terms and exposes them for all client systems to access and use
- Benefit: Quality re-use of MDM terms across the enterprise.
- Benefit: Many systems can be 'masters'.

Data Aggregation

Merging Data About the Same Subject

- Multiple systems with partial information about a subject
- Create a holistic view to query, display or process
- Simple protocol makes it easy to plug in new systems.
- RDF data makes data merging simple

Data Integration

The feedback loop

- Ability to feed information back to source systems using same mechanisms.

- In the 'loop' now means getting augmentations from other systems. You now know what they know.

Data Publishing

Producing Data for Other Systems

- – Expose data rather than applications
- – Make data available for internal or external use
- – Allows data to be used in innovative and unforeseen ways

Data Publishing

Overcome Political Barriers

- – Small cost to join the eco-system.

- – No one has to give up their system

- – Minimal change requests

SDShare

Questions?