

# Joint meeting of IG Brokering and IG Data Fabric: Brokering services

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## **Brokering History**



## Interoperability Challenge



Challenge in Accessing data from different sources

> System level environmental research

Challenge in Identifying and citing data objects, and in publishing data



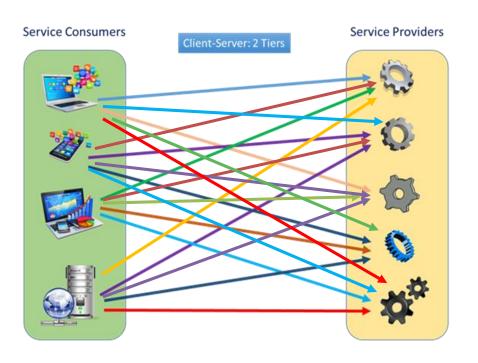
Challenge in Combining different data processing models Challenge in
Executing applications on
distributed infrastructures

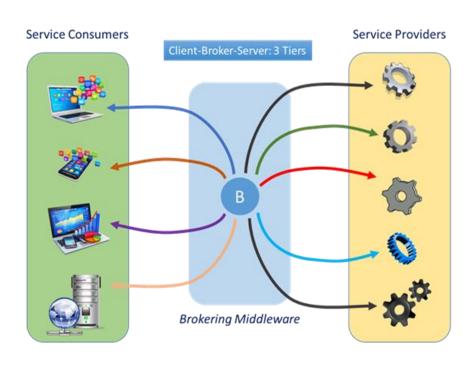


Credit: Data Fabric IG Envri+ use Case



## Service Brokering Pattern

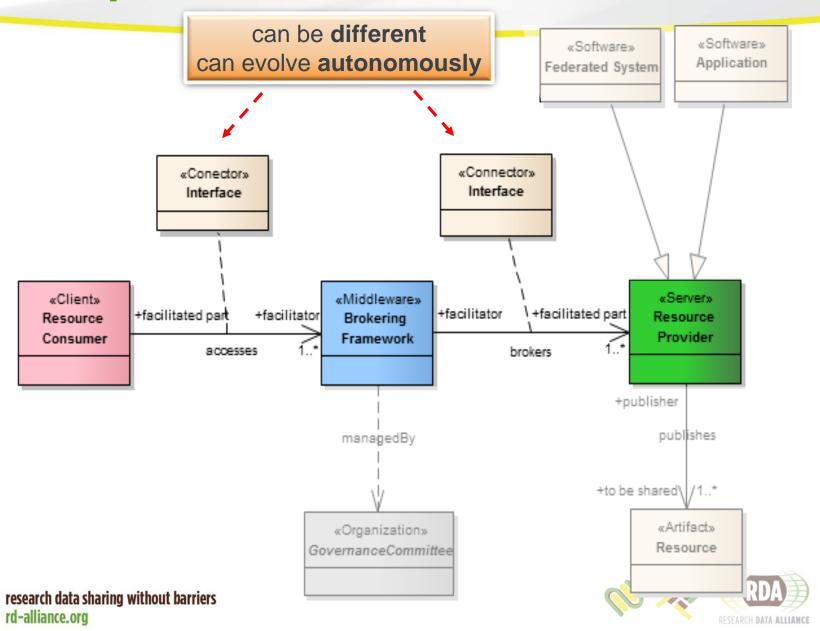




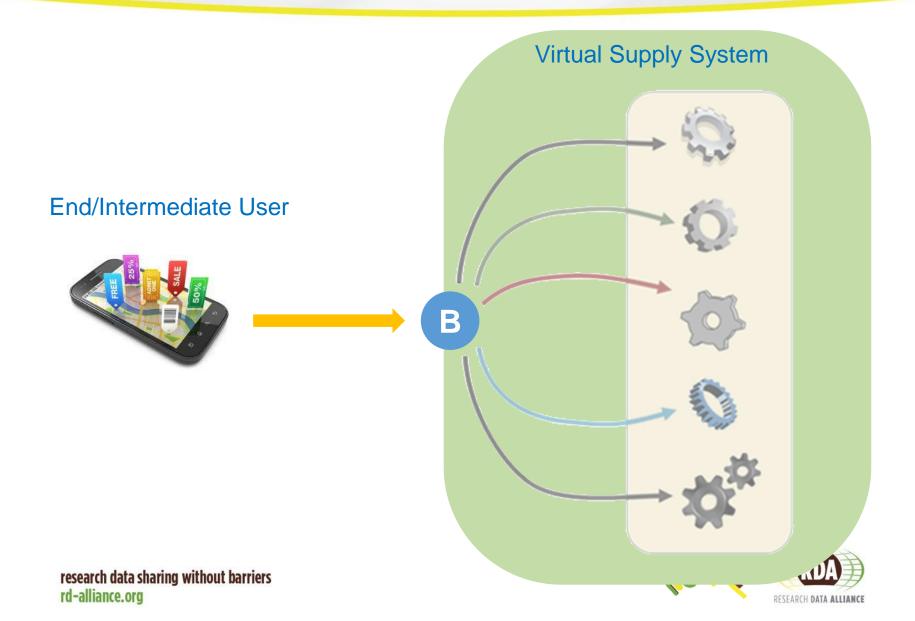
Traditional SOA (NxM connections)

Advanced B-SOA (N+M connections)

### Scope



### Virtualization of data supply systems



#### **Broker Traits**

The Broker that (effectively) works in a heterogeneous environment containing multiple remote objects that interact synchronously or asynchronously typically demonstrates the ability to:

- 1. Finalize requests on behalf of its clients against a vast supply system —e.g. by transforming different interoperability protocols;
- 2. Support many clients at the same time in a dynamic way;
- 3. Access large, distributed, and heterogeneous supply systems in a dynamic way;
- 4. Is fully autonomous from its clients and accessed supply systems;
- 5. Is flexible and configurable (even at run-time);
- 6. Is extensible.









#### Service Brokering Benefits

Keep the existing capacities as autonomous as possible by interconnecting and mediating standard and non-standard capacities.

Supplement but not supplant systems mandates and governance arrangements.

Assure a low entry barrier for both resource users and producers

Be flexible enough to accommodate existing and future information systems as well.

Build incrementally on existing infrastructures (information systems) and incorporate heterogeneous resources by introducing distribution and mediation functionalities to interconnect heterogeneous resources.

Specify interoperability arrangements focusing on the composability of inter-disciplinary concepts rather than just the technical interoperability of systems.

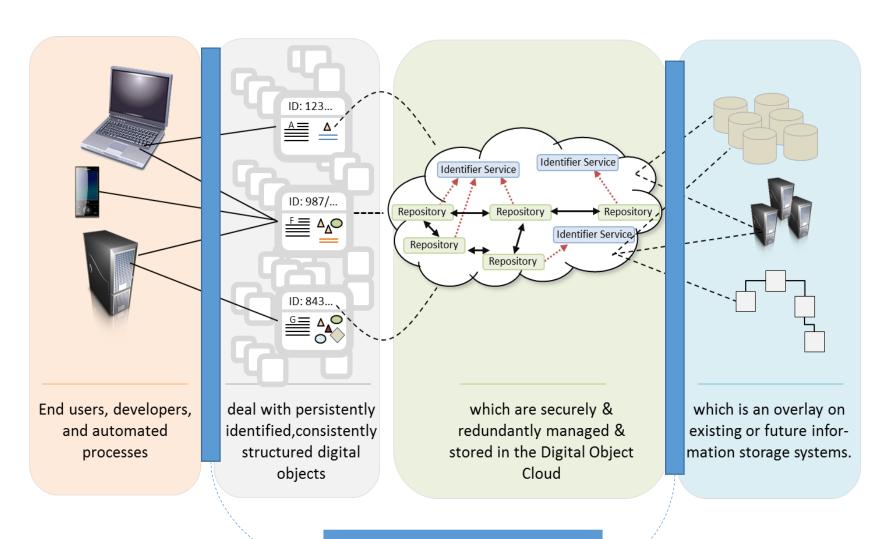
Credit: FP7 EuroGEOSS project



## Possible collaborations



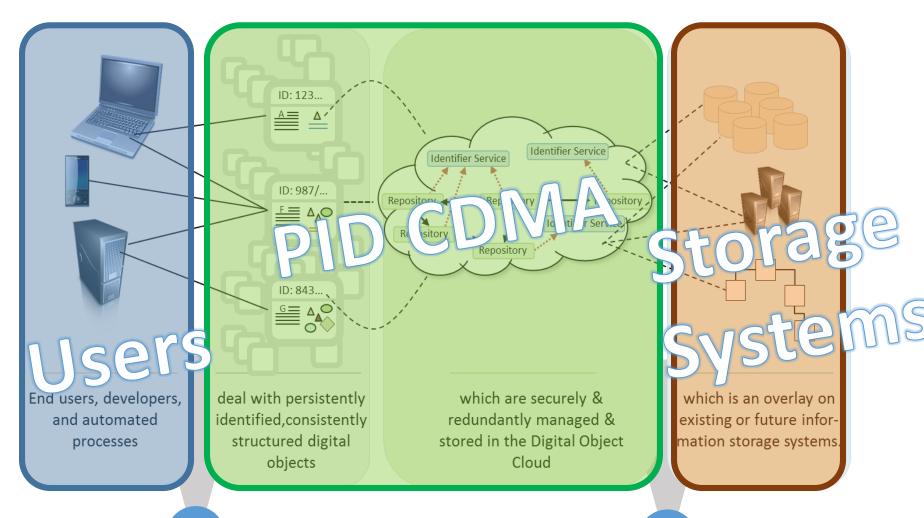
#### PID Centric Data Management and Access



Intereperability/service Interfaces ?



#### PID Centric Data Management and Access

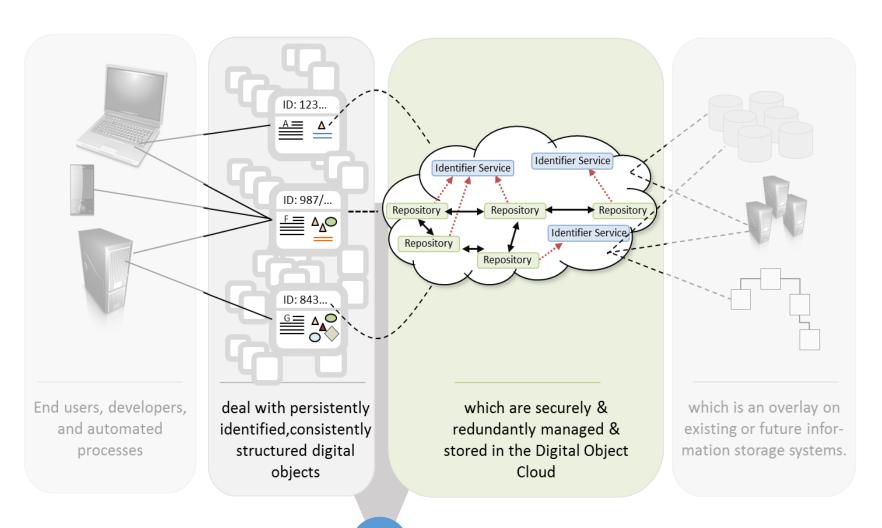


Consumer --- B --- Provider

Consumer --- B --- Provider



#### Map/mediate different Digital Objects



Consumer --- B --- Provider



# Thank you for your Attention!

