

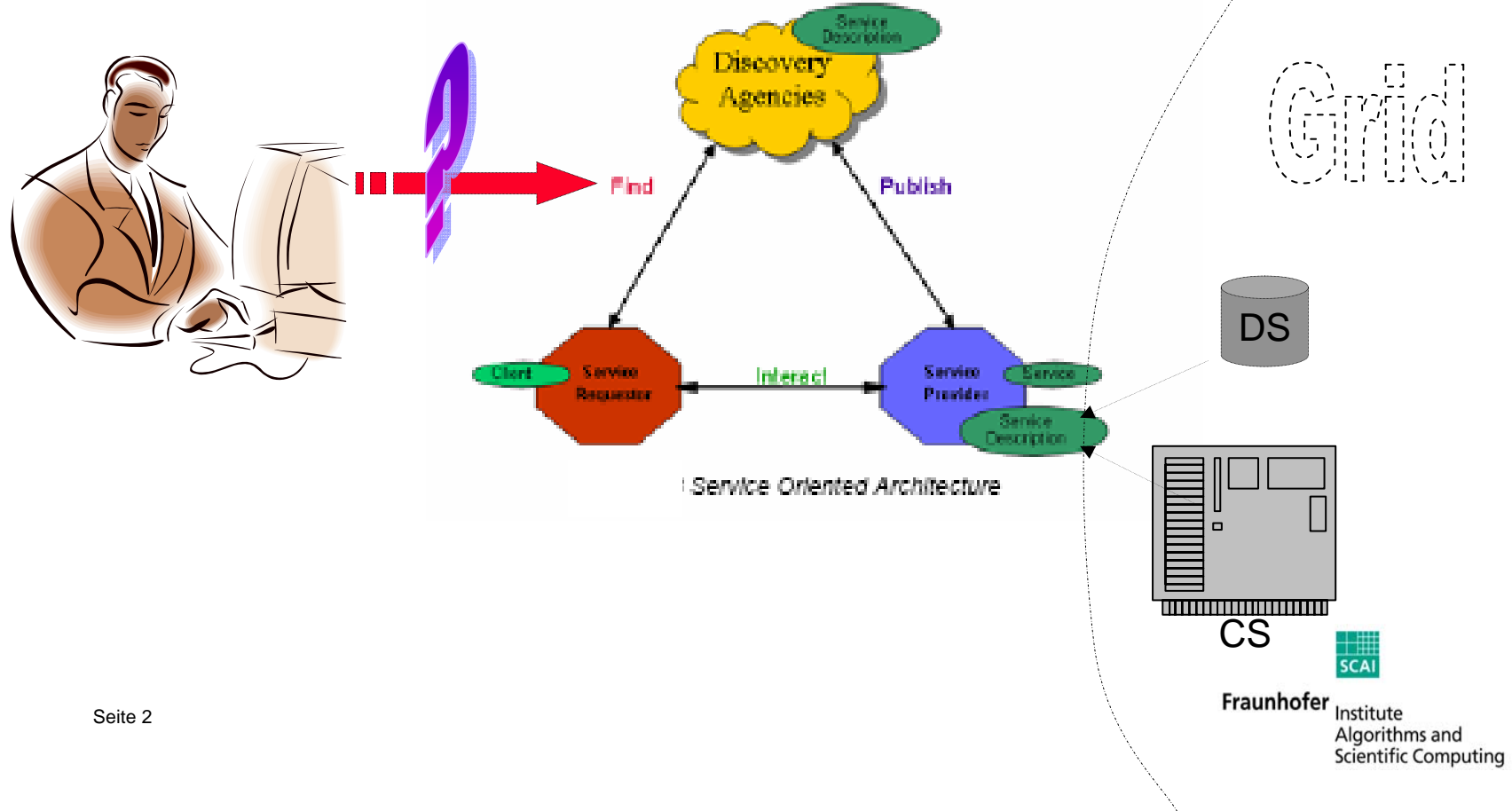
Challenge (and solution strategy) summary

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SOA

Taking the user/client perspective,
it's mostly about finding your *service* and / or *data*



Why semantics?

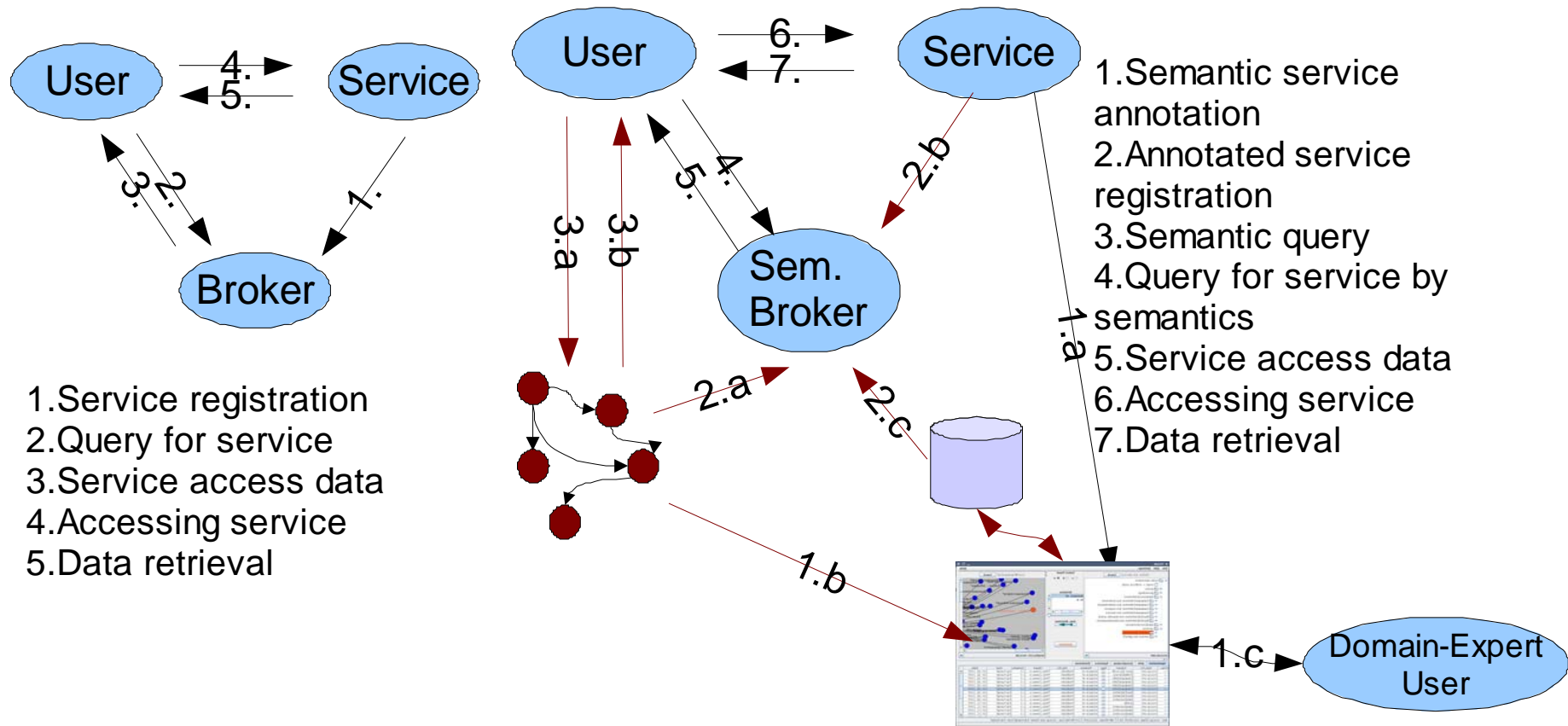
Web/Grid-Service technology can be significantly enhanced by incorporating semantics into service descriptions in order to enable software agents to automatically discover, compose and invoke service resources. Most of current Web Service technology lack machine-processable semantics. Which is a shame:

Dimension	Conventional Web Services	Semantic Web Services
Service Complexity	Simple	Composed
Requestor	Human	Machine
Discovery	Syntax-based	Semantics-based
Service description	(Informal) Taxonomy	Ontology
Descriptive elements	Closed world	Open world
Data exchange	Syntax-based	Semantics-based

Dimensions of Web Service features

Source: SWWS: Analysis of Web Service Solutions and Frameworks

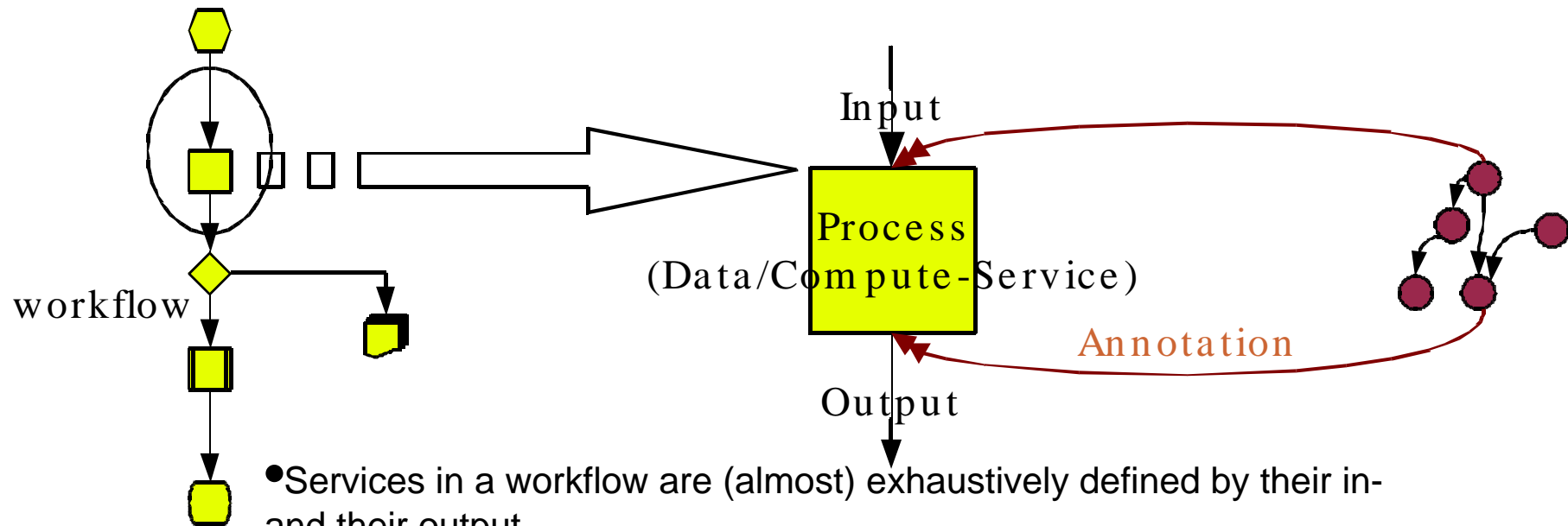
From SOA to sgSOA by semantic annotation



1. Service registration
2. Query for service
3. Service access data
4. Accessing service
5. Data retrieval

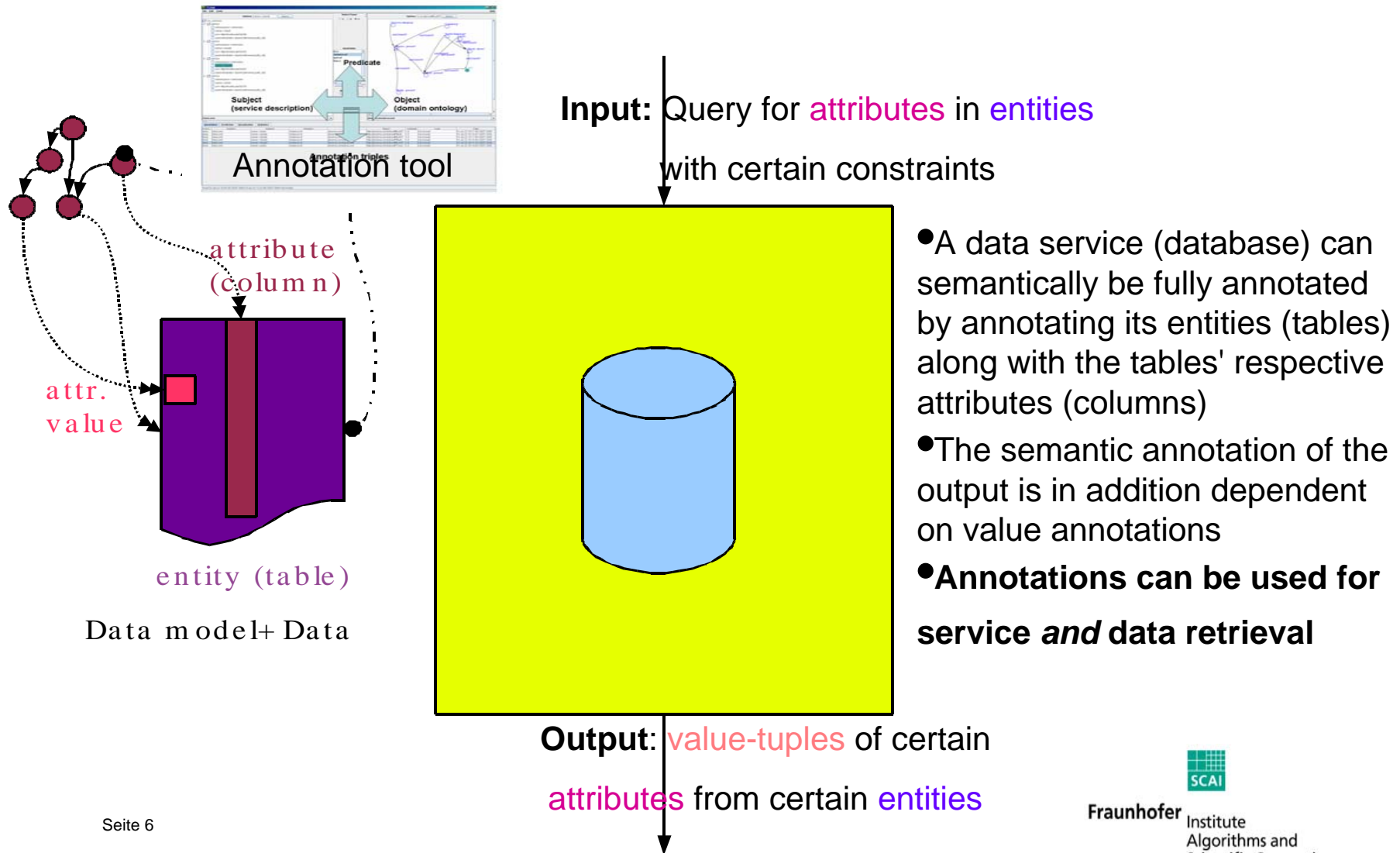
1. Semantic service annotation
2. Annotated service registration
3. Semantic query
4. Query for service by semantics
5. Service access data
6. Accessing service
7. Data retrieval

Grid /Web Service Semantic Annotation

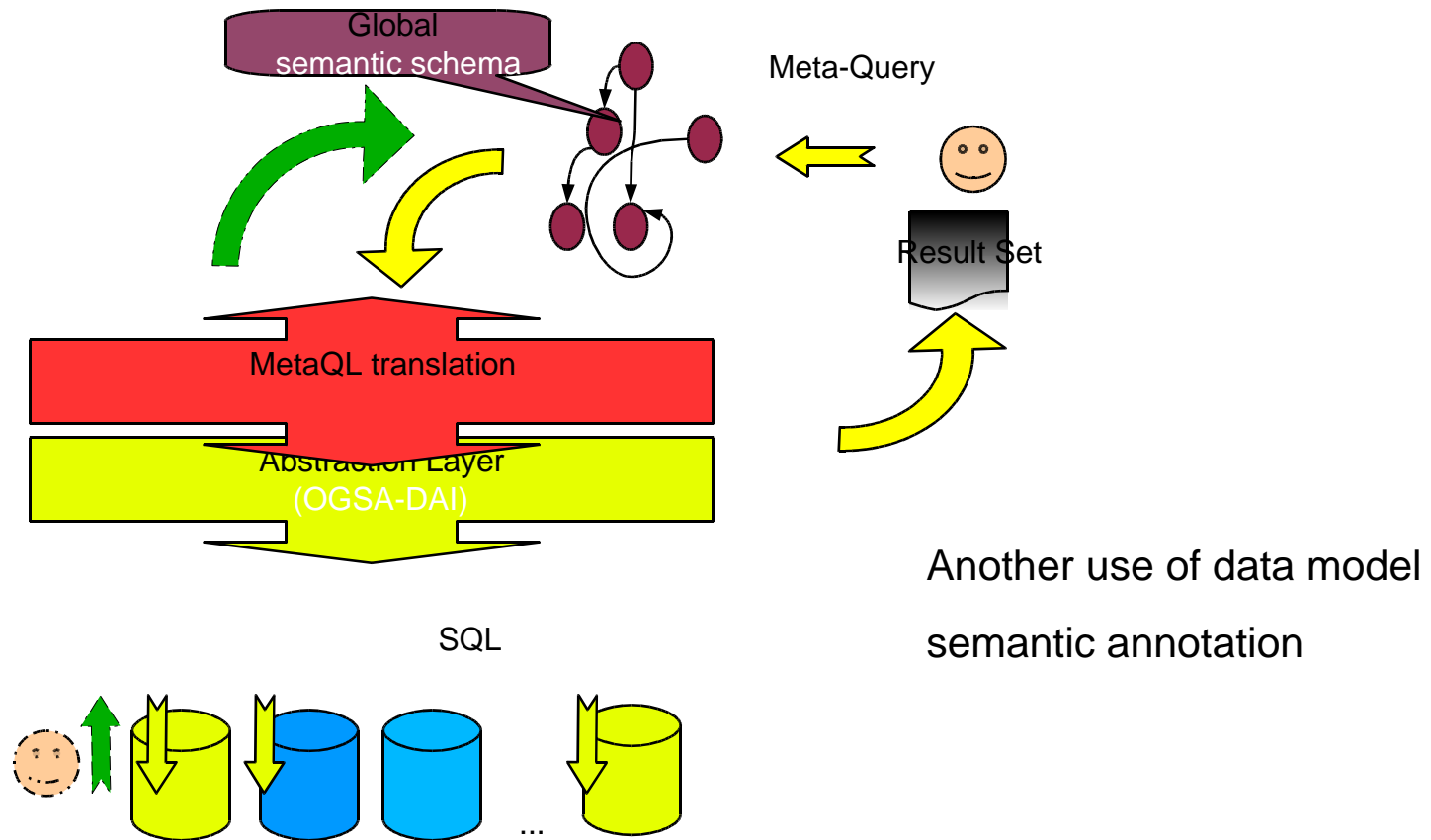


- Services in a workflow are (almost) exhaustively defined by their in- and their output
- WSDLs give only rough information (data type, structure,...)
- Semantic annotations can tell you, what the data really is about

Annotation of a data service



Querying a distributed data service



Pleas

- Sort out the overlaps in SOA and Grid (and possibly the differences). There is now considerable confusion in some communities. Help the people get over it.
- Let data and compute services converge in terms of retrieval. A service is a service is a service.
- Take a workflow-centric view. Single services are usually uninteresting.

OWL-S > WSRF > BPEL > ...?
- Be sure not to try to glue semantics on top of an existing system, instead, try to think in sgSOA, sgWS, sgWSDL, ...
- Do not forget to think about the user and the vision of a “virtual desktop”

gsSOA

After all,

it's all about finding your *service* and / or *data*

