



Workplan for stay at ISI (Jun 10th – Sept 8th)

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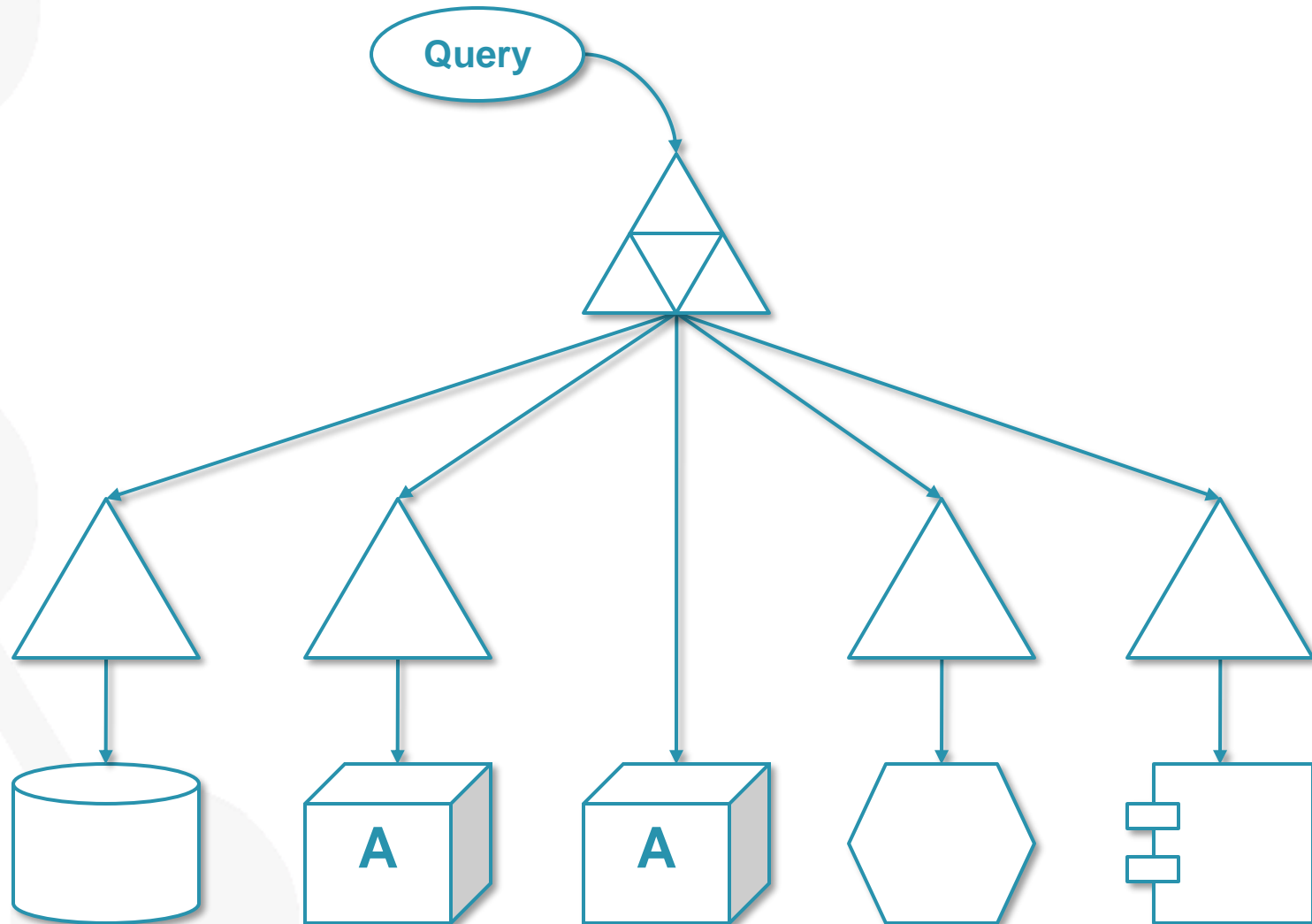
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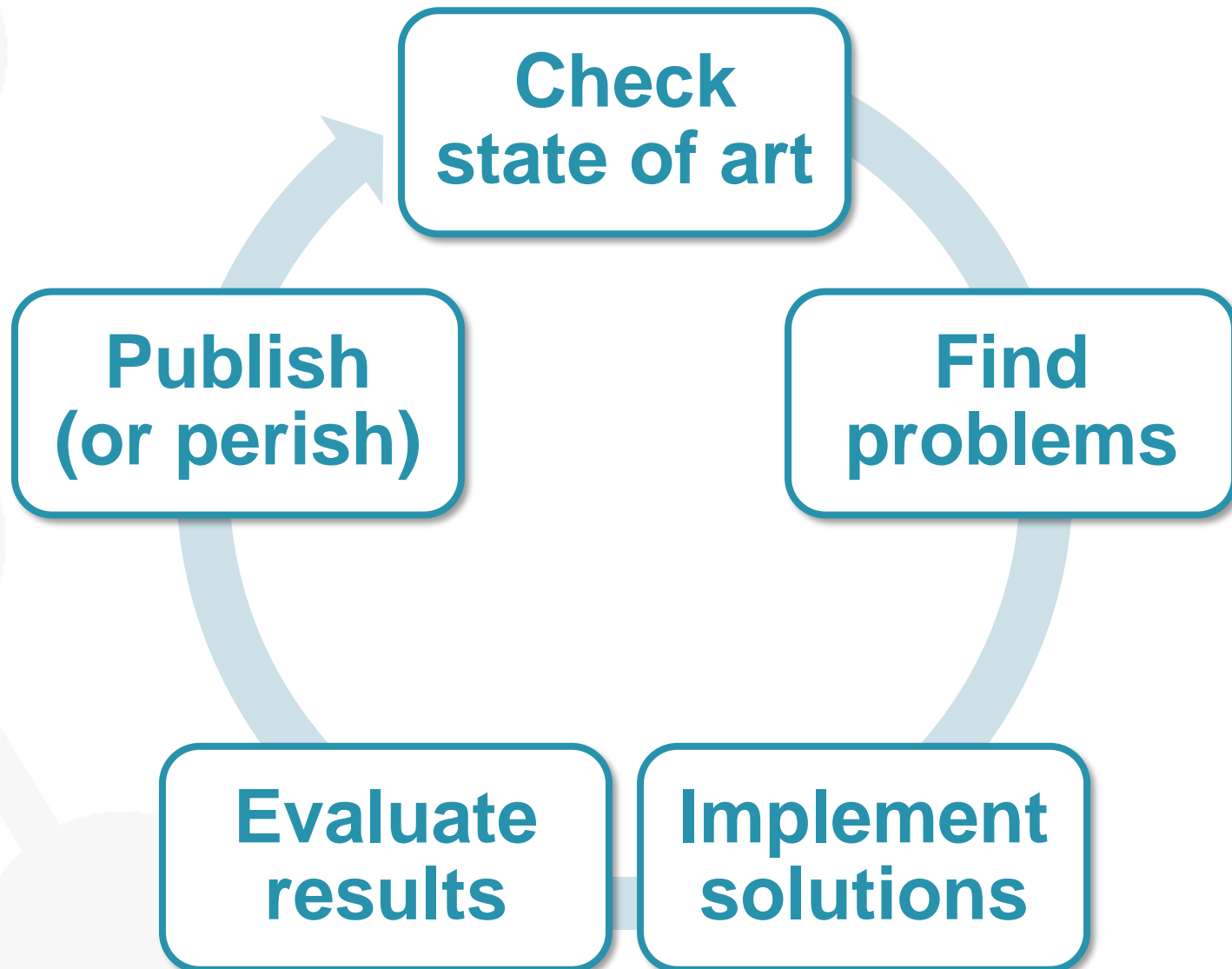
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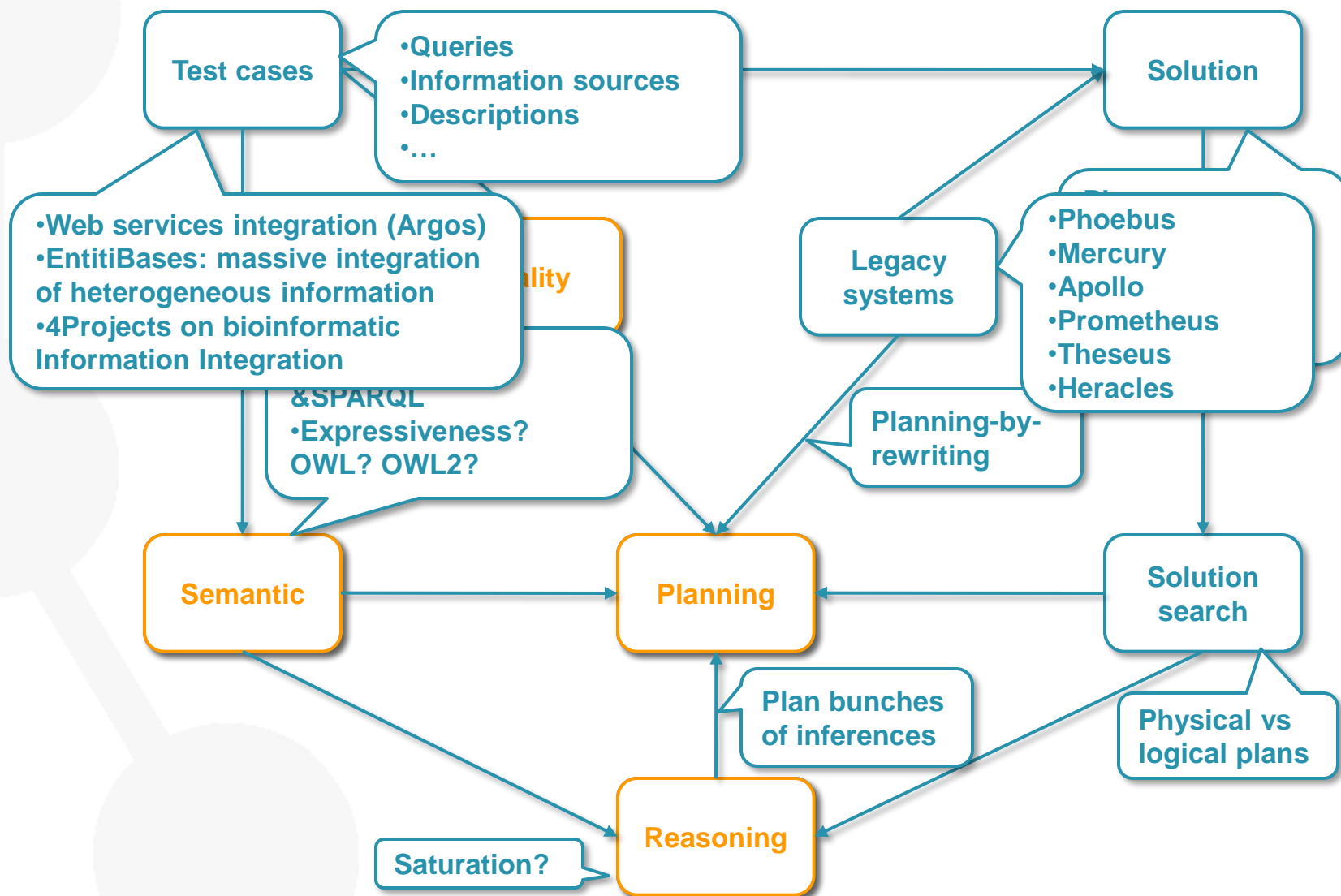
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1. Technical scenario
2. Generic action cycle
3. Conceptual Scenario
4. Action cycle applied to conceptual scenario





Conceptual scenario



Action cycle applied to conceptual scenario

Incremental

	Check SoA	Find problem	Implement solution	Evaluate result
Ambite's commands	1-12w			
Semantic Triple Match	1w	1w	3w	1w
Reasoning (Sat-ELHIO?)	1w	2w	4w	2w
Reasoning-by-planning	3w	2w	5w	2w
IntraDB planning	2w	3w	6w	1w
New Planning	2w	4w	3w	3w
Quality model	3w	4w	1w	1w



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- Sources described with several triples instead of single n-ary predicates.
- Requires graph matching in query preconditions
 - Allows partial match
 - Allows composition of conditions
- Postconditions require more complex unifications
- Merging of information is more straightforward
- Constraints on the information after merging (decomposed query) should not be less (correctness) or more (completeness) than in the original query
- This problem may already be solved in ISI at the current time

- Pérez-Urbina shared the code to rewrite queries reasoning with DL- *ELHIO*
- AFAIK, that has not been done in the ISI, the reasoning capabilities are quite restricted
- I've worked with the code from Pérez-Urbina, now it considers the availability of predicates to rewrite to those retrievable
- It could be possible to join both systems and add reasoning capabilities to the systems in ISI
- It could be possible to use different reasoning techniques that materialize the inferences from an ontology and perform query planning from there
- It could be possible
- It may also be the case that they don't use really complex ontologies and reasoning is irrelevant, a lattice may be enough

- If the ontology is too big or too expressive saturation is not possible
- Planning can be used to choose the inference steps to perform, this possibility should be explored
- The selection performed by planning introduces a big overhead over the operations to perform
 - The operations should be grouped in bunches to reduce overhead
- Planning-by-rewriting should be the planning method used, new operators should be added for the inference
 - These operators depend on the expressiveness of the available ontologies

- Planning so far decides the sources to query, the information to retrieve and the information to use
- A higher granularity is possible and SQL queries could be composed using planning
- Planning-by-rewriting should be the planning method used, new operators should be added for the composition

- Planning-by-Rewriting (PbR) is a state of the art planning algorithm
- Probably it is not perfect yet
- In this case the limitations and problems of PbR should be studied and the focus would be set on solving them

- There are two main approaches to define such a model, formal and empiric. The properties of the information sources in ISI could help to define the quality model empirically



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