PPARC

A PPARC funded project

Common Execution Architecture – The Future?

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VOTech Kick Off
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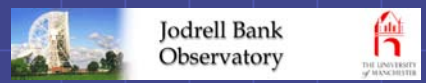
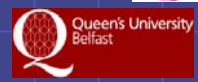




Introduction

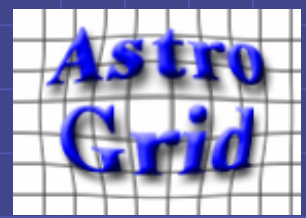
- Common Execution Architecture (CEA)
- An attempt to model how an application is run in the Virtual Observatory
  - An application is any process that consumes or produces data
- Designed primarily to work in web services environment
  - A set of schema and WSDL definitions

Motivation

- To create a model of an application
  - VO infrastructure only has to deal with a single application model
  - Application writers know how to interface VO
- Provide higher level description than WSDL
  - Restrict to manageable subset
  - Provide specific semantics for astronomical Quantities
  - Provide extra information - e.g. Defaults, UI info – Tie in with registry.
  - Define asynchronous activities

•Successes

- Uniform interface has benefited AstroGrid components
  - JES/Workflow engine
    - Able to focus on what it needs to do
    - JEScript
  - Portal
    - Workflow builder has UI auto-generated from Registry information
- Have set of “out-of-the-box” components to wrap legacy applications.



Immediate Future

- Consolidate
  - Need to better document how to “wrap” legacy components
  - Need to document workflow features
- Promote as an IVOA standard.
  - encourage use of interface directly by new applications

Possible Extensions

- Could adopt some WS standards as “drop-in” replacements to parts of current architecture
  - http://www.ivoa.net/twiki/bin/view/IVOA/AsynchronousActivityProposal
- Include Streaming
  - needs collaboration with storage services
- Interface with “Grid” backends

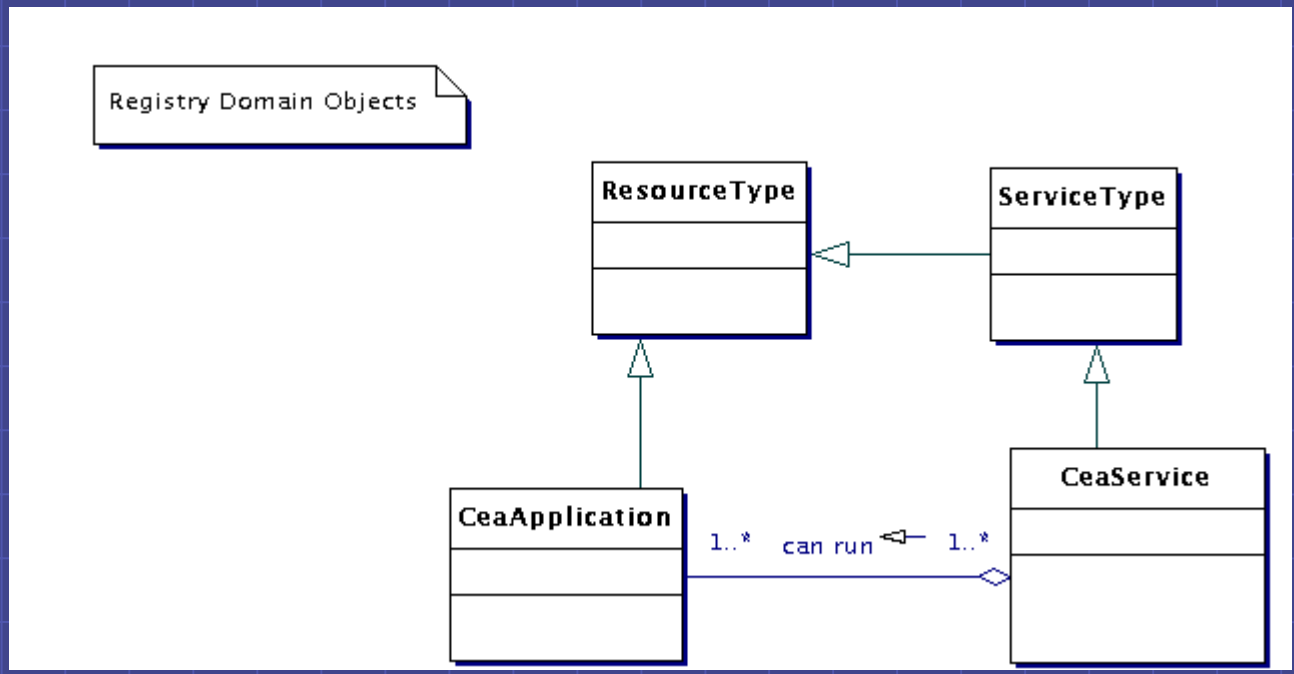
- Adopt DM
  - Currently <ParameterValue> is very simple
    - Type attribute – boolean, integer, VOTable....
    - <value> element
  - Could adopt type(s) from the Data Modelling efforts
    - Quantity
    - Higher level
  - Create inheritance hierarchy?

•CEA Control

- State of the CEA servers themselves.
  - How much memory
  - How many currently running jobs
  - Closest MySpace filestore
  - etc.
- Useful for scheduling metrics

•Ontologies

- Currently this is all we have...



Summary

- CEA creates an environment to send messages to and from applications.
- Any more ideas gratefully received!
- See maven page
  - http://www.astrogrid.org/maven/docs/snapshot/applications/