

The WISEBED Consortium
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Lulea, July 2nd, 2009

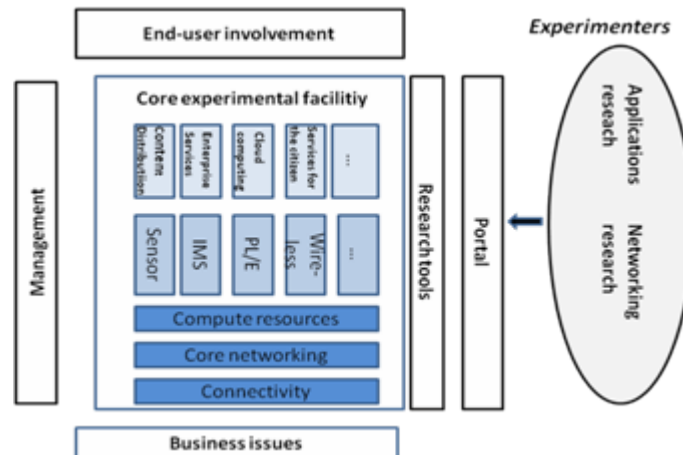
Towards an Open Federation Alliance



Motivation

- What the FIRE WISE Men say:
 - “A federation of test-beds aims at creating a physical and logical interconnection of several independent experimental facilities or test-beds to provide a larger-scale, more diverse and/or higher performance platform for accomplishing advanced tests and experiments.”
 - “Test-bed federation is used to temporarily create a rich environment for test and experimentation to the increase benefit of the experimenters beyond individual independent test-beds.”

- Architecture:



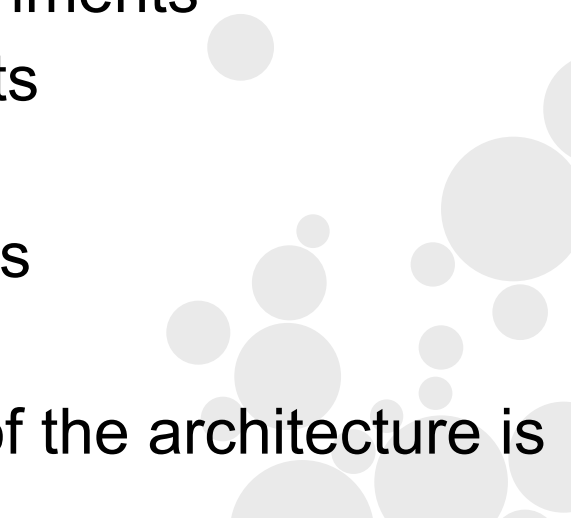
Open Federation Alliance

- What WISEBED believes:
 - Flexible and open federation processes can and will only happen if there are open standards
- Therefore we advocate the creation of a standardization body on European level, the

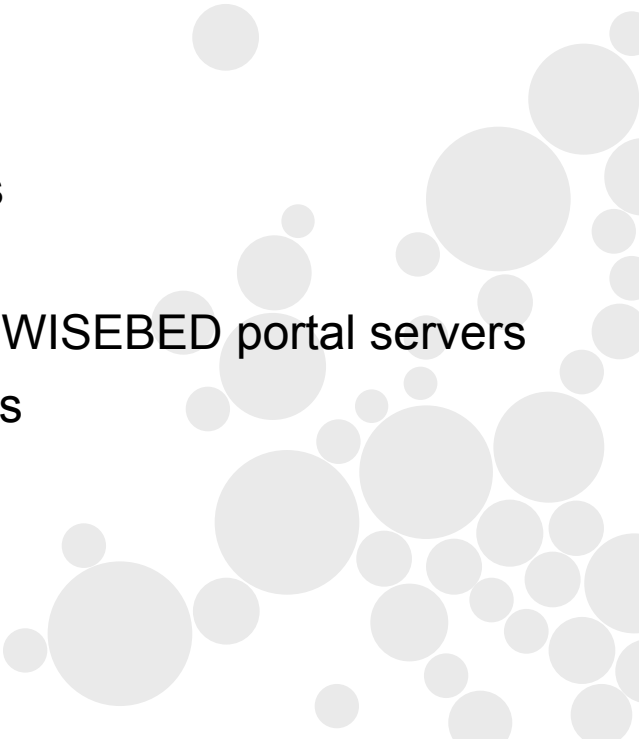
Open Federation Alliance

- It should at least include the FIRE facility projects, but also all other parties involved in creating test beds, for instance on national level (example: G-Lab).

What we need – in more technical terms than the architecture

- Single sign-on / one-stop shop – i.e., a common approach for managing user credentials
 - A common language for resource descriptions
 - A common language to describe experiments
 - A common language to describe results
 - Standardized APIs to access resources
 - → This and continuous development of the architecture is the field for OFA
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The WISEBED Approach

- Use of Shibboleth for single sign-on. This could also be something like OpenID.
 - WiseML for sensor node description
 - Experiment and trace description language
 - Several APIs:
 - WSN API: access to sensor network capabilities
 - Monitoring API: monitor state of the WSN
 - Interconnection API: allows creation of VPNs of WISEBED portal servers
 - Per-Node API: access to individual sensor nodes
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WISEBED Architecture

