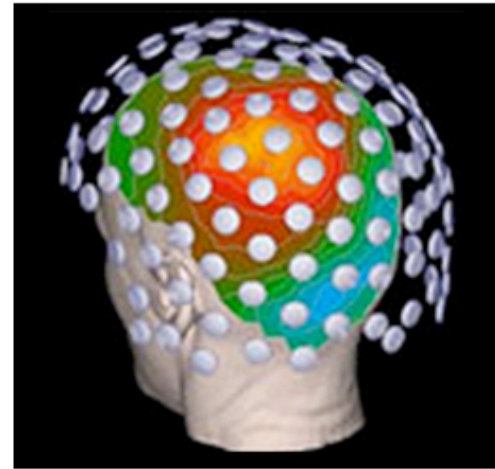
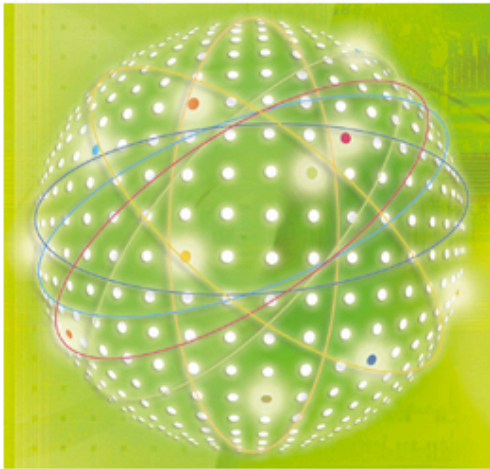
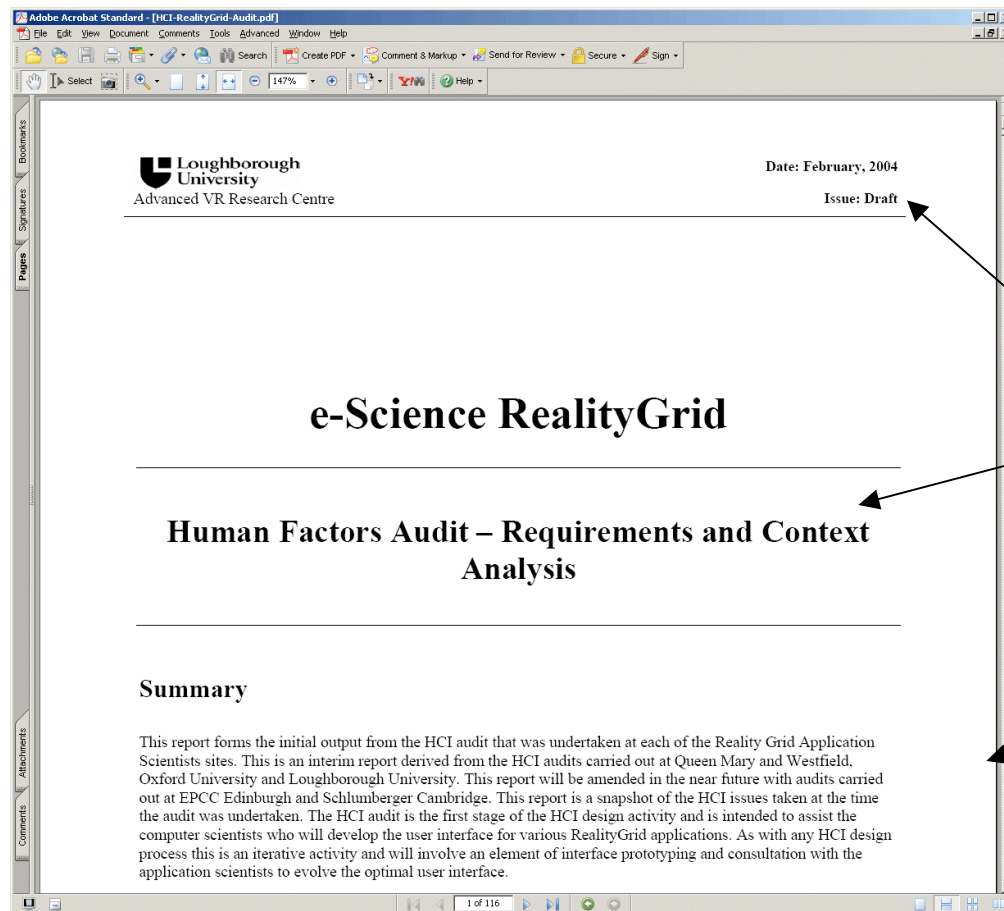


Some concluding thoughts ...
focusing on the road ahead



From ideas to practice ... notable successes

- 1999 Santa Fe convention --> OAI now a global enabler
- 2003 Berlin Declaration --> from idea to global practice



Metadata

Full-text

Paradigms and hazardous behavior

Driving while navigating through the rear view mirror

- Paper = linear model
- Networked world = multi-dimensional model

The driver is communication and enhanced understanding

Thus far, we have merely digitized paper

Taking our cues from social interactions and systems

- To glimpse the future, observe youth & their behavior
 - Multi-tasking, multi-modal technologies
 - High need for social connectedness
 - Short attention span, reading in snippets and flashes

Openness Movement

- Open digital repositories
- Open source software and its communities
- Open standards
- Open content; open knowledge
- Open alliances for creating middleware
- Open intellectual properties more broadly
- Keeping the Internet architecture open
- Counterbalance overly restrictive access (rights management)
- Preserving our cultural and digital heritage

supporting ubiquitous knowledge and information environments

What's at Stake in the New Paradigm? Examples

Earth systems: how is earth changing and the consequences for life on earth requires systems supporting interdisciplinary analysis:

Astronomy

Atmosphere

Lithosphere

Hydrology

Geophysics and geology

Biosystems and life sciences

bio migration patterns

Population dynamics and migration patterns

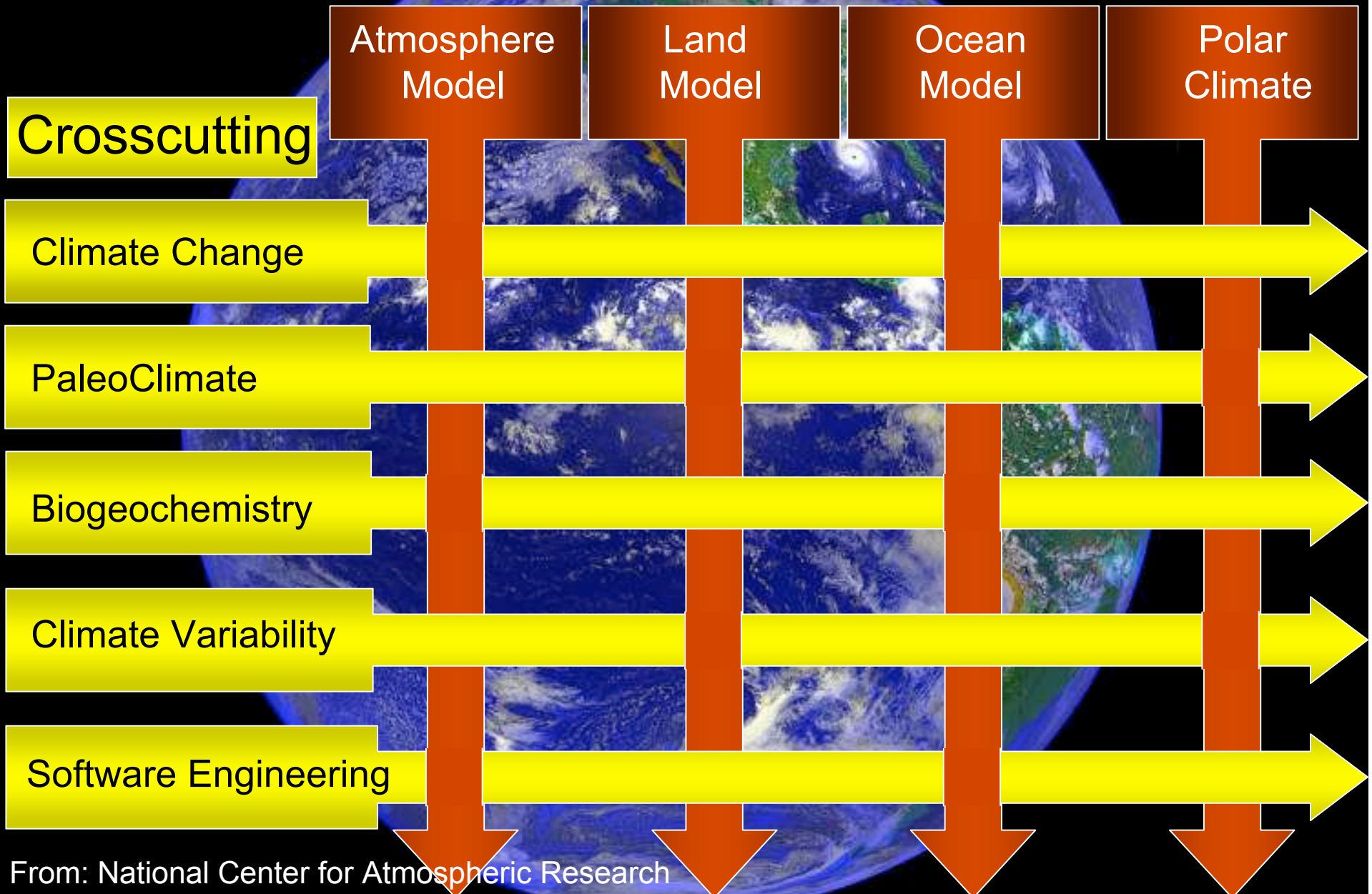
Carbon cycles

etc., etc ...

- Global climate change
- Natural disaster forecasting: tsunamis, earthquakes, hurricanes, floods, fires, localized weather extremes
- Computational pathomics: 21C disease detection and spread via study of the molecular basis of infectious disease

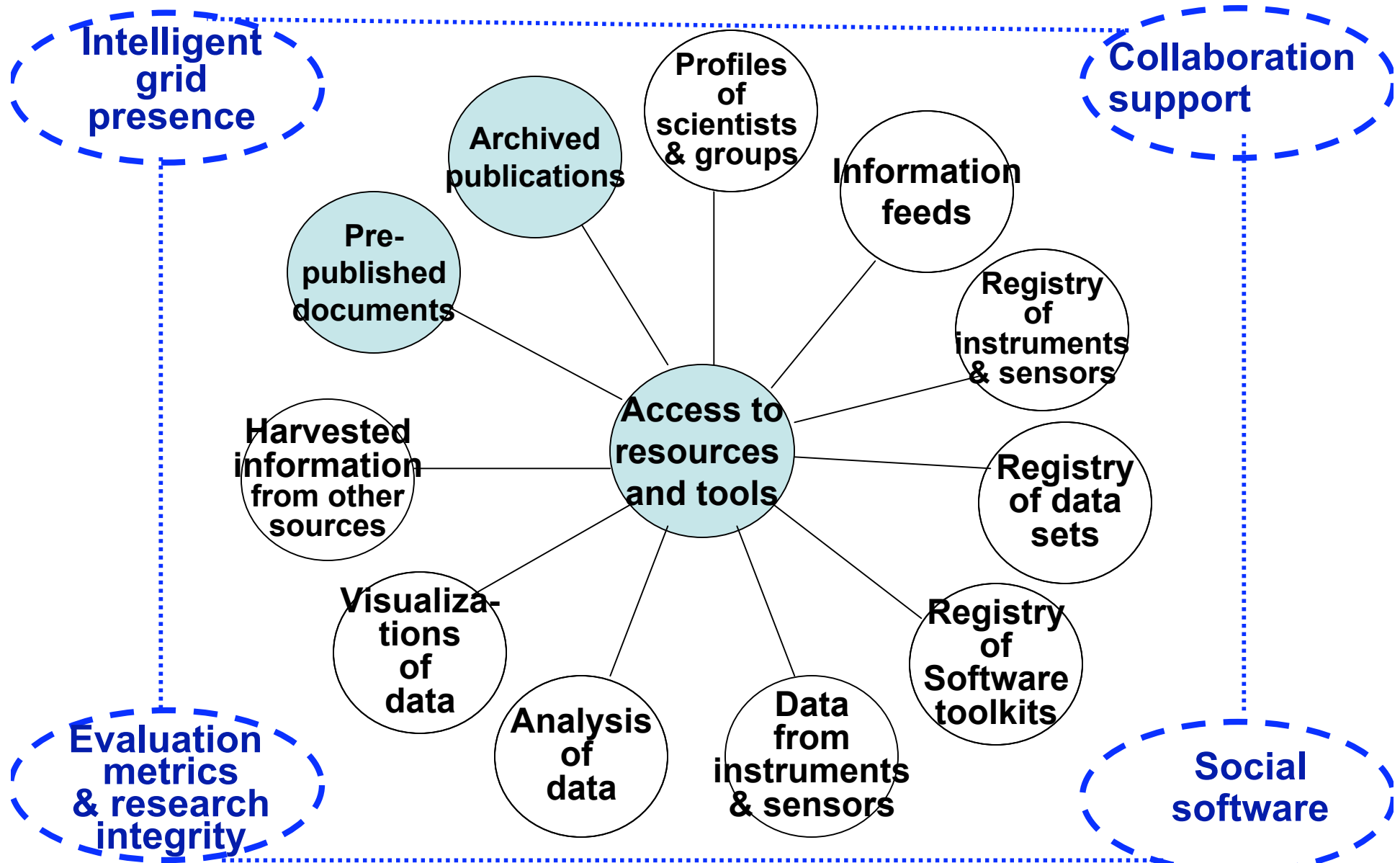
Component Models and Coupling Strategies

Model-centric



Repositories, Workflow and Data Archiving

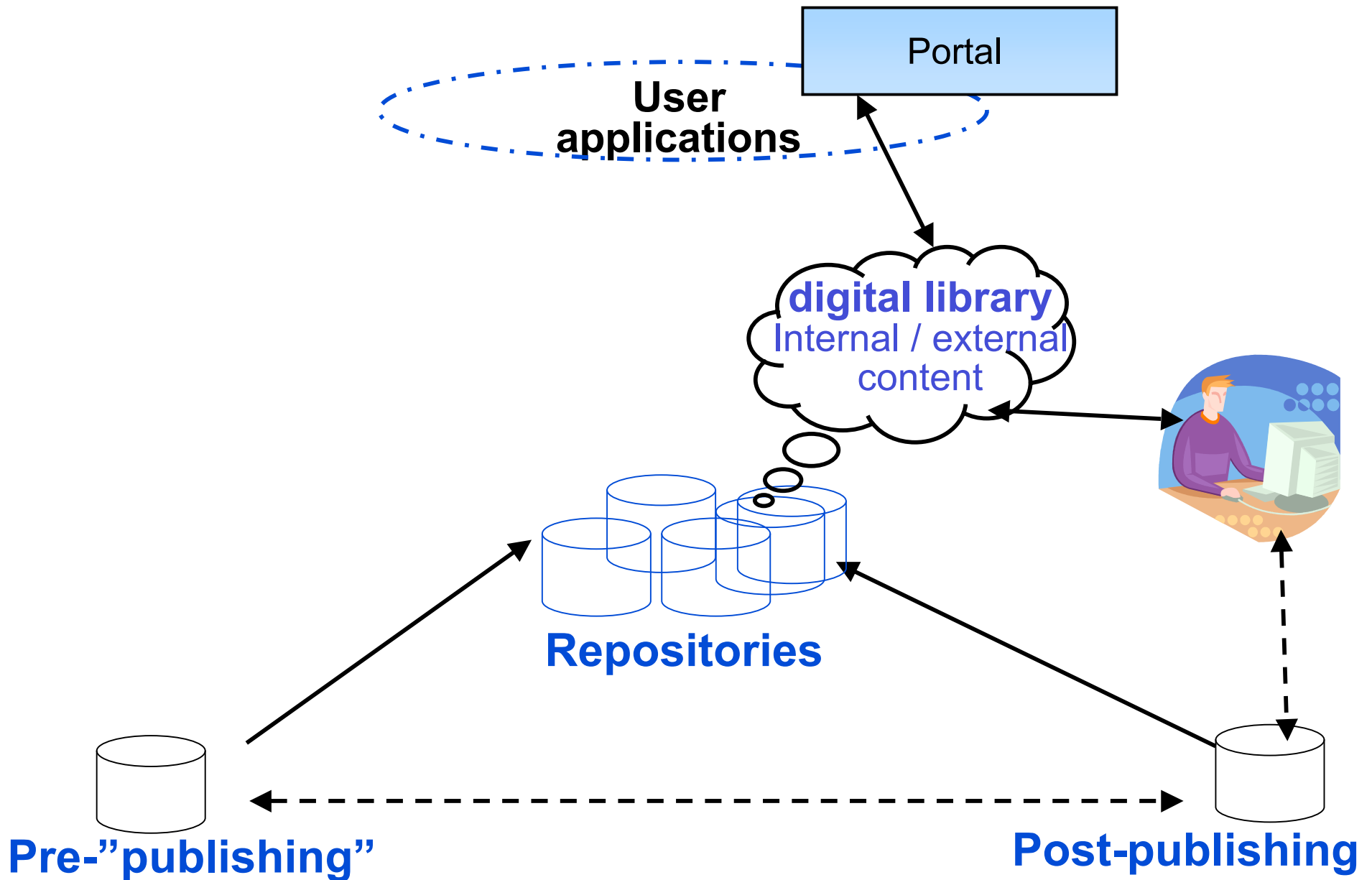
Enabling group-to-group interaction in persistent electronic spaces



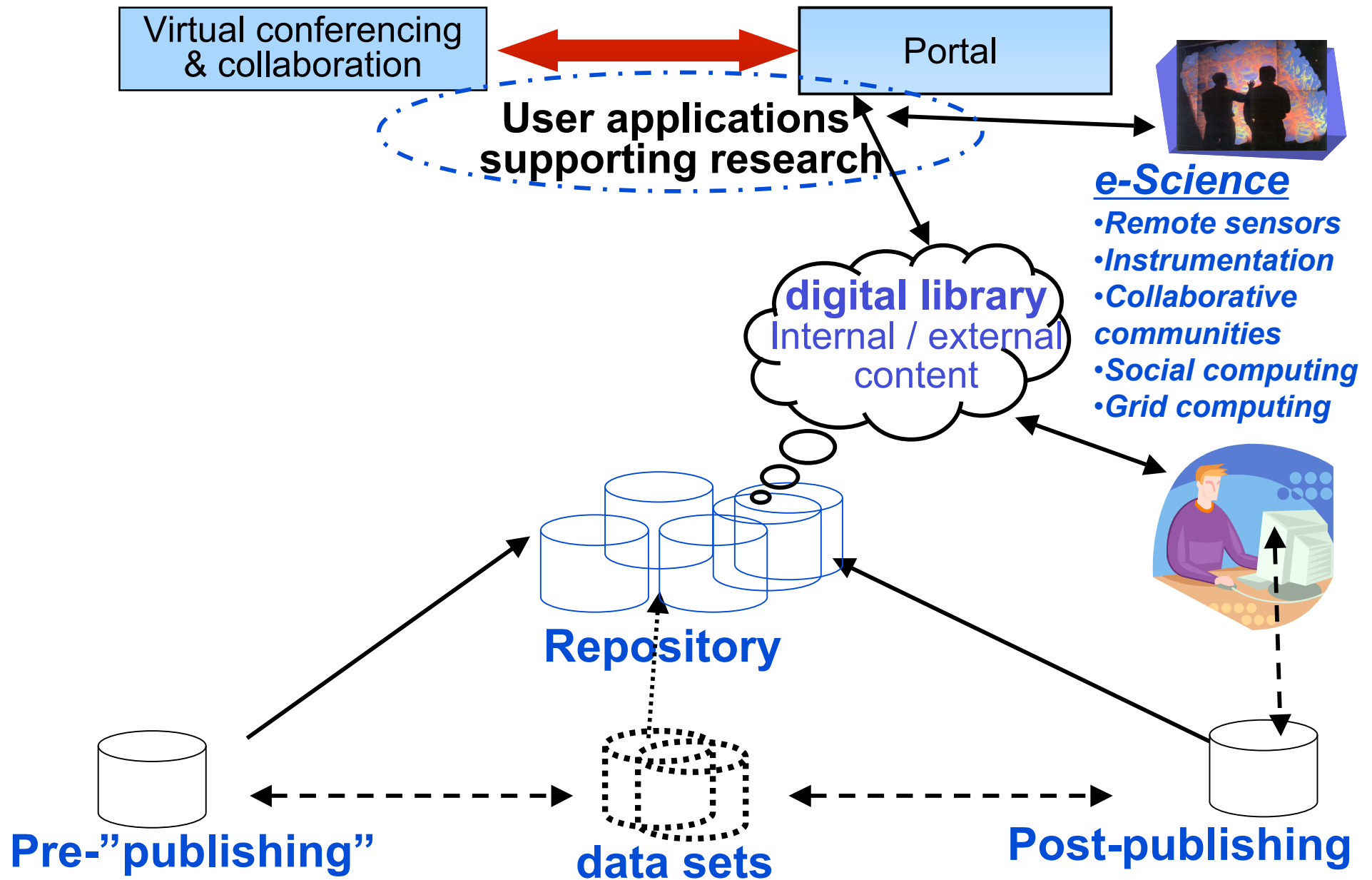
Berlin Declaration: Taking a next step

Explore the creation of international databanks of federated data and knowledge archives, recognizing that data assets reside in different locations and belong to multiple domains, individuals and organizations

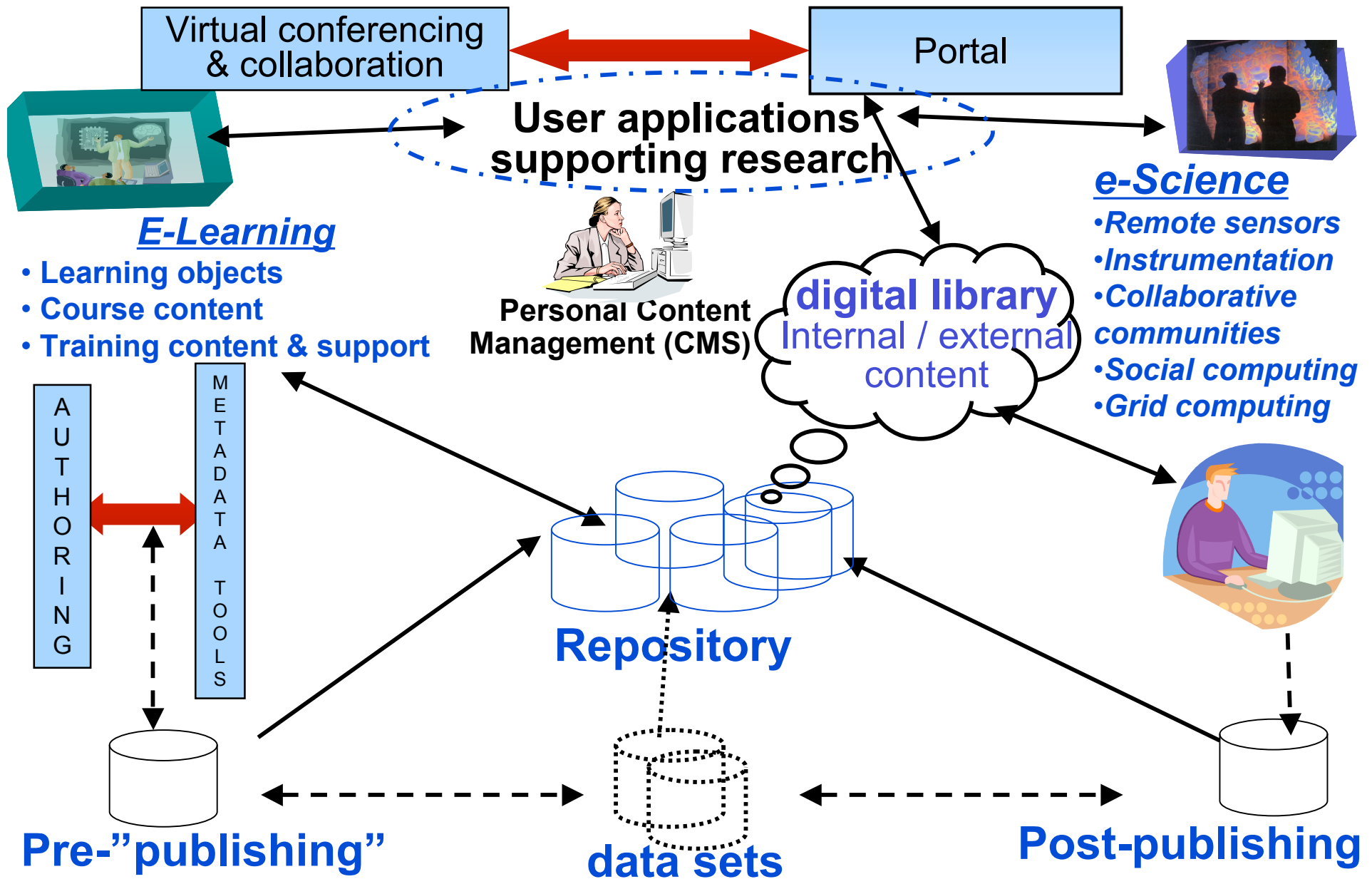
Putting some of the components together



Putting some of the components together



Towards a Foundation for Knowledge Communities



We can and must create & support new options for

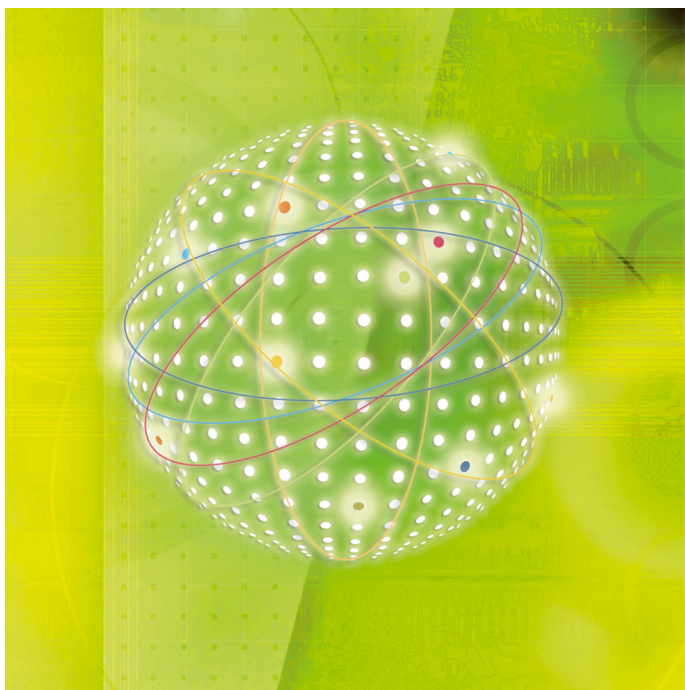
what is done

how it is done

and who participates

We now have the opportunity -- moreover the responsibility
-- to help make it real

Let us expand our perspective and step into the breach



*We must do much more than aggregate and provide access to
digital scientific information ...*

*Our job now is to wire people's brains together so that sharing,
reasoning, and collaboration become part of everyday work.*

R. Luce, Bits, April 1998