

# The Social Aspects of Interoperability

John P. Wilkin  
University of Michigan

# Introduction

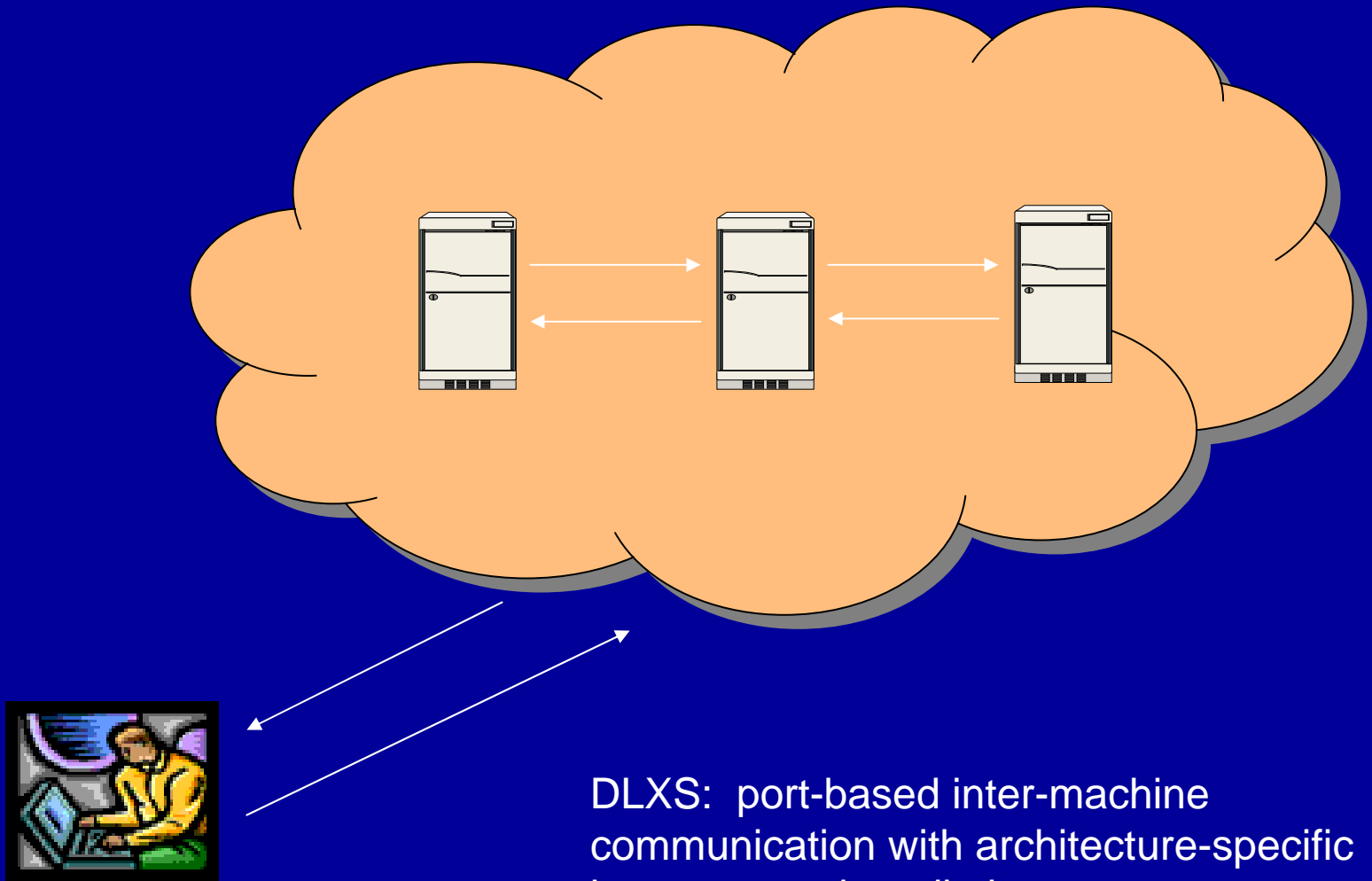
- We hate silos
- We shun sharing
- We define “federation” as “interoperation”
- Creating “A Distributed Digital Library of Mathematical Monographs”

# “Why does [Interop] got to be so sad”

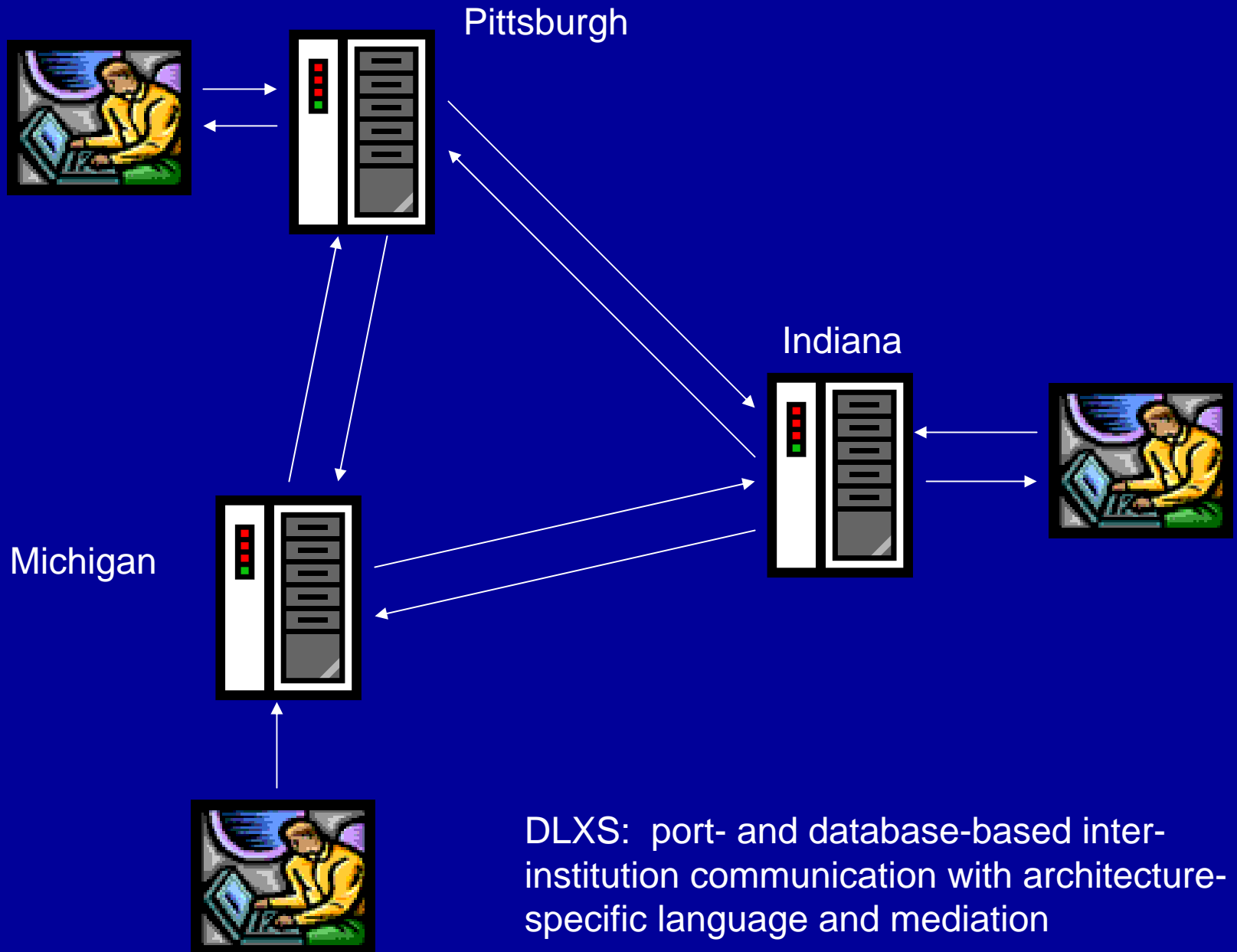
- Hard problem because a complex problem
- Cf. Z39.50
- In full text systems ...
  - Common metadata?
  - Common results format?
  - Needle in the haystack
  - “transport”
    - sending and receiving a search
    - sending and receiving information about results
    - sending and receiving the actual content

# Distributed Search vs. Interoperable Search

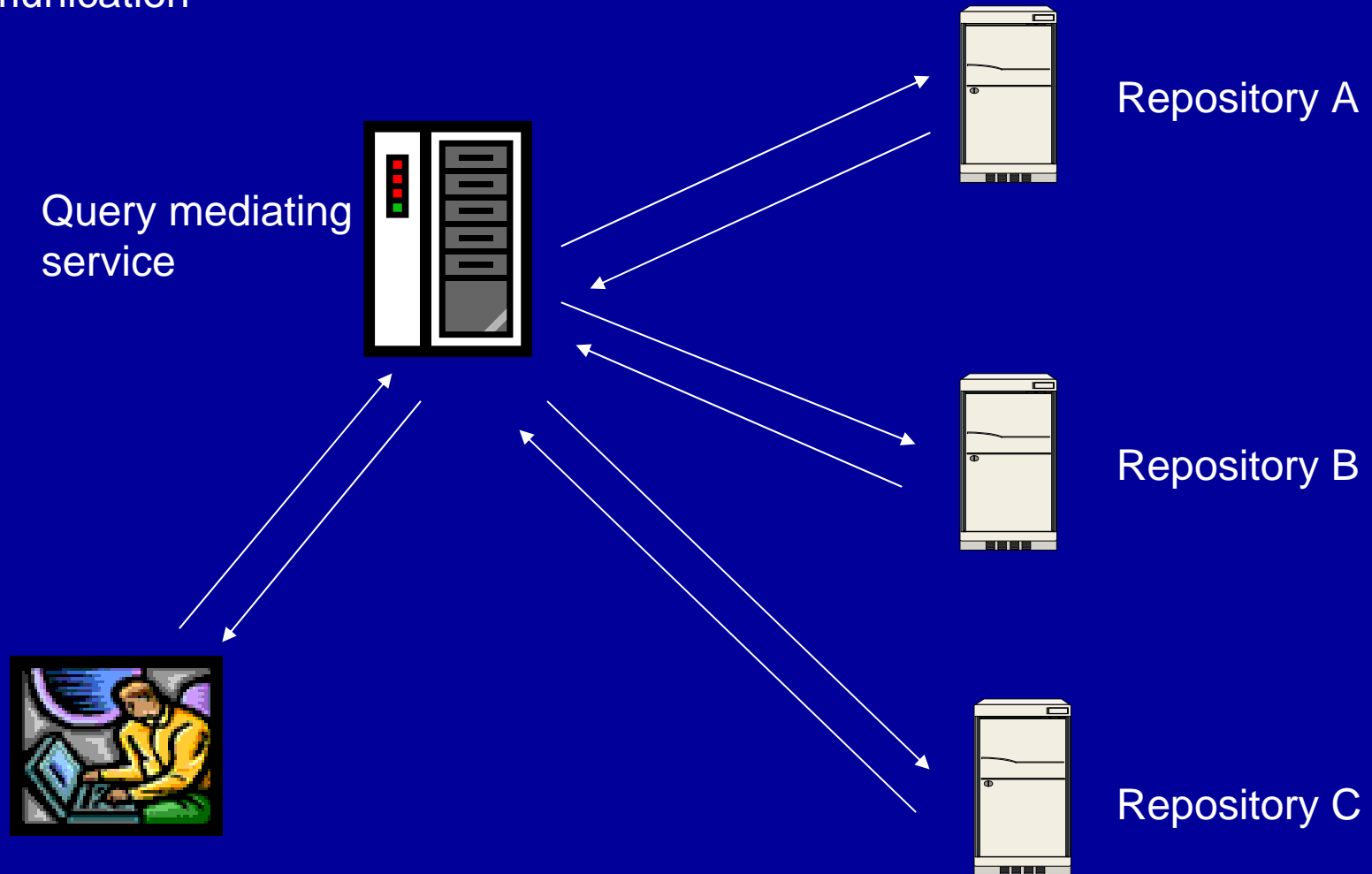
- “Distributed” difficult?
  - Single institution distributed
  - Multi-institution distributed
  - Interoperability
- Challenges of “agreement” in interoperability



DLXS: port-based inter-machine  
communication with architecture-specific  
language and mediation



## CGM: protocol-based inter-service communication



# Isn't "Boolean" Easy?

- Documents with (pages including (X and Y))
  - Document includes one page with both X *and* Y
  - Document includes one page with X *and* another page with Y



# What We Accomplished

- It works [next slide]

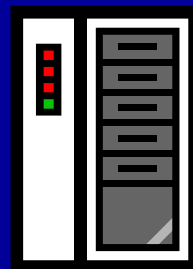


Northeast  
user

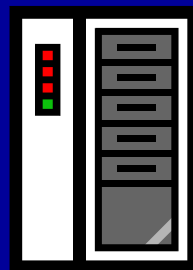


Midwest  
user

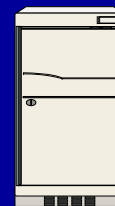
Cornell QM  
service



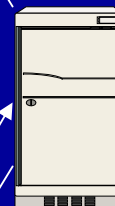
Michigan QM  
service



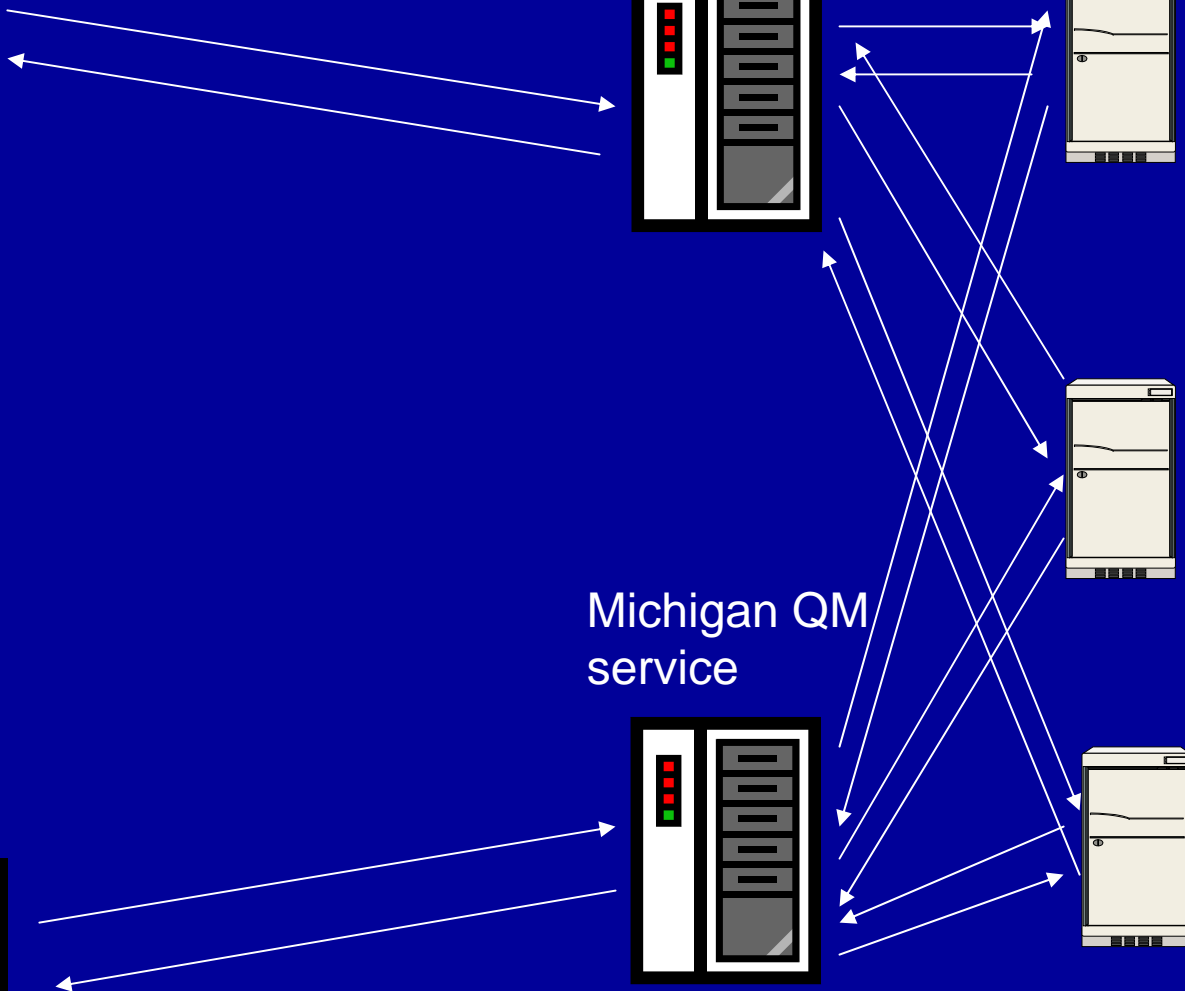
Cornell  
Repository



Göttingen  
Repository



Michigan  
Repository



# What Remains to be Done

- Tapping the potential of structured queries
- Implement the DISSEMINATE verb fully
- Improve the production-worthiness of CGM
  - The affect of network latency.
  - ... process large numbers of results from multiple institutions.
  - Accommodating different models for ranking or sorting
  - Determining and taking into account outages and partial outages at remote sites.
  - Introducing mechanisms such as scaffolding into search strategies

# Conclusion

- <http://www.library.cornell.edu/mathbooks/>
- Why is interoperability important?
- Not a problem of SOAP, WSDL, SRW or other technologies, but rather the social factors, and CGM is a great foundation
- Contacts:
  - [jpwilkin@umich.edu](mailto:jpwilkin@umich.edu),
  - [cgm-feedback@umich.edu](mailto:cgm-feedback@umich.edu)