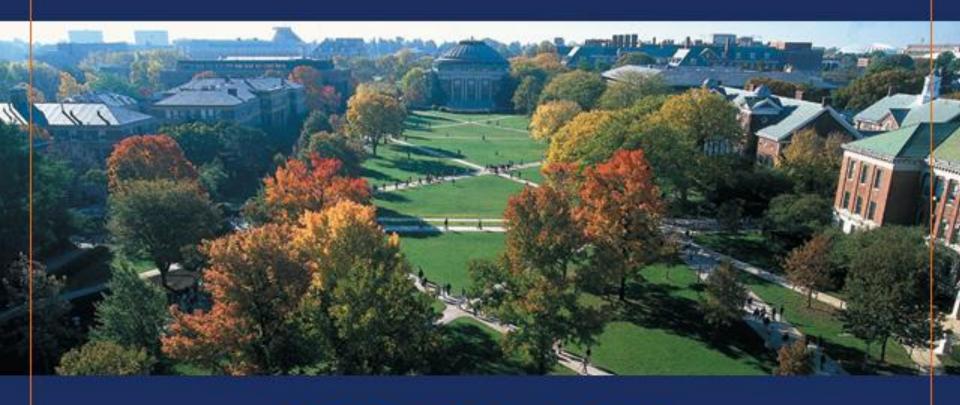
### A Note on Assertions

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#### MPI Assertions

- Previous proposal by Dick Treuman
  - Seems to be stuck somehow
  - Very inflexible (basically a fixed set of assertions at the beginning)
  - Puts the burden on us to decide which assertions to standardize
    - + weird discussions about bit vectors ©



# **Another Viewpoint**

- We have MPI\_Info objects
  - They're very flexible and allow for vendorspecific extensions
    - Test before standardizing
    - Good example: graph topologies
- Usage of MPI\_Info is inflexible
  - Some functions have info arguments,
    some don't, seems rather random <sup>(3)</sup>



#### Info vs. Assertions

- Info arguments can be used to assert usage of MPI as long as:
  - They can safely be ignored!
  - i.e., they don't affect correctness if ignored
  - BUT: they may affect correctness if used wrongly (e.g., "no\_locks")
- Usually used for performance
  - Similar to main motivation for assertions



## A proposal

- Allow to attach new info values to MPI objects (comm, win, ddt, ...)
- E.g., attach info to a comm
  - MPI\_Info\_attach(MPI\_Comm comm, MPI\_Info info)
  - Possible info objects for communicators include:
    - no\_any\_tag, no\_any\_source, no\_concurrent\_access, ...
  - Can easily be extended!



### Questions/Discussion?

- What do you think?
  - Straw vote: "Should this be fleshed out as a concrete proposal to be presented at the next meeting?"
    - · Yes
    - · No
    - Abstain

