Maintaining Conference Information: Local Session State Object Base (LASSO)

- **Local representation of conference state**
  - local copy of global state information
  - active applications
  - application-specific information
- **Representation of capabilities**
  - system specific
  - conference specific
  - application specific
- **Means for interaction**
  - coordination between local applications
  - access to the horizontal via the vertical protocol through one or more local conference controller(s)

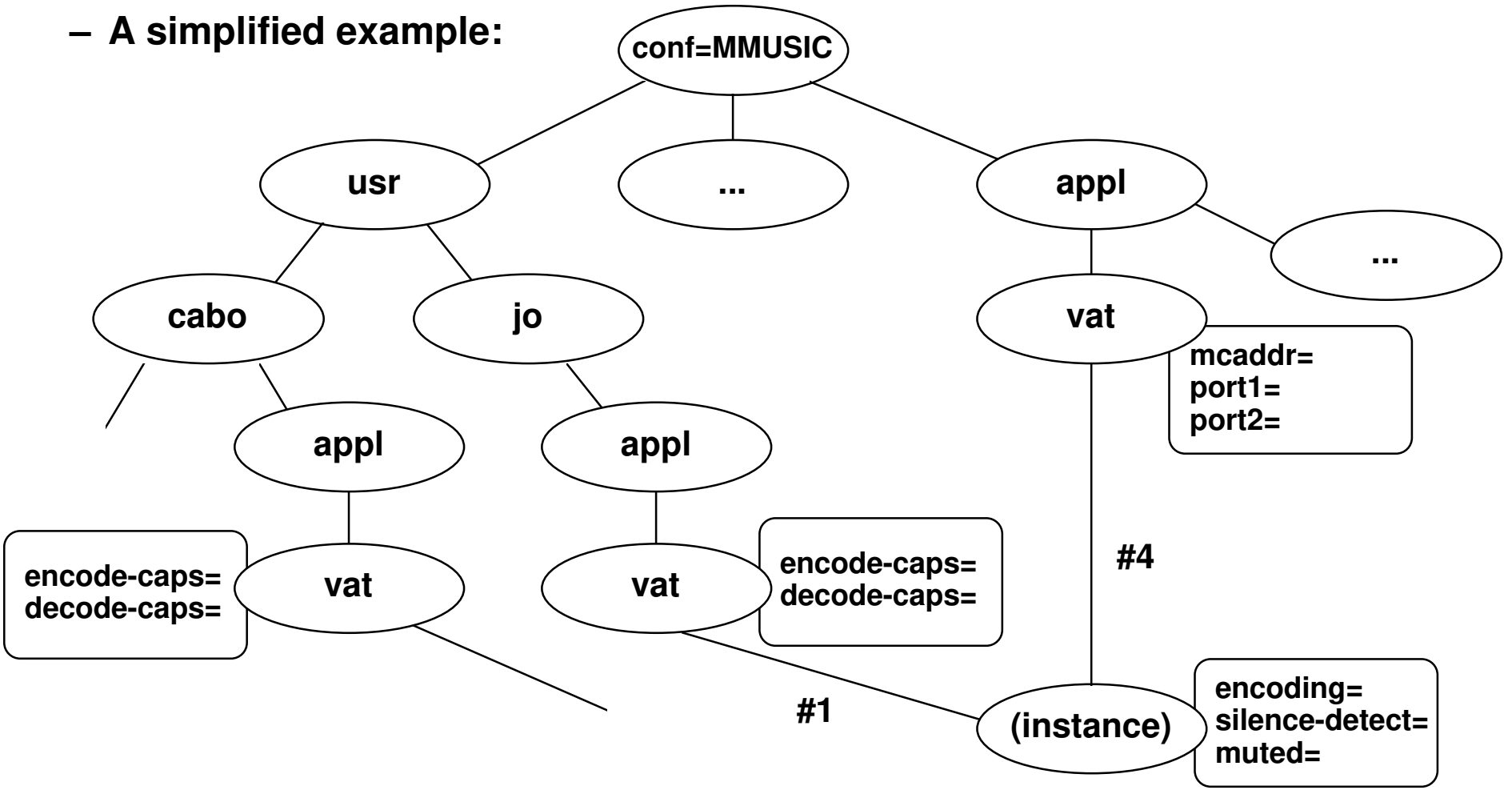
Object Storage: The Dictionary

- March 94 TU Berlin prototype:

- **Passive implementation**
  - local applications are the active entities
  - storage and retrieval of information
    - » tree structure with links
  - simple access protocol
    - » based on S-expressions
    - » uses TCP or reliable datagrams
- **Operations**
  - new, let, remove, link
  - stat, cat, list, refs, search
- **Information structure of the conference**
  - e.g. users (@hosts), applications, resources, roles, ...

Dictionary Object Tree

– **A simplified example:**



Local Interaction: Conference Information & Request Protocol

  - Jan 95 TU Berlin prototype
- **Means for coordination of local applications**
  - sharing / deciding about changes of conference state
  - registration / deregistration
  - complementary to Dictionary
  - assumes a single conference controller per user
- **Functionality**
  - asynchronous events about
    - » conferences and participants in conferences
    - » conductorship and floor control
  - registration of applications
  - selection of events
  - transparent message passing

Unifying Dictionary and CIRP

- **Goals**
  - **unify information storage and interaction protocol**
    - » **use a single protocol (simple!)**
  - **link between horizontal and vertical protocols**
    - » **independent entity without assumptions about roles**
  - **hook for interoperability**

⇒One focal point for tight coupling of one participant's applications

Unifying Dictionary and CIRP (cont.)

- **Retain Dictionary basics**
  - **Unified protocol elements are ``semantics-free´´**
- **Add monitoring and event generation**
  - **changes may trigger events to certain applications**
- **Add redirection of manipulation requests**
  - **changes may be redirected to the application responsible for a particular object (piece of information)**
    - » **decision may be made locally**
    - » **or request is forwarded by controller via session agreement protocol**

Status of work

- Unified LASSO protocol being designed
- Initial implementation under way
- Modelling of conference state
  - modelling of ITU-T state in progess
  - IETF conference state information needs to be defined
  - style of application and capability descriptions to be defined
- Current version of Dictionary available
  - //ftp.cs.tu-berlin.de/pub/local/kbs/dict/dict.tar.gz