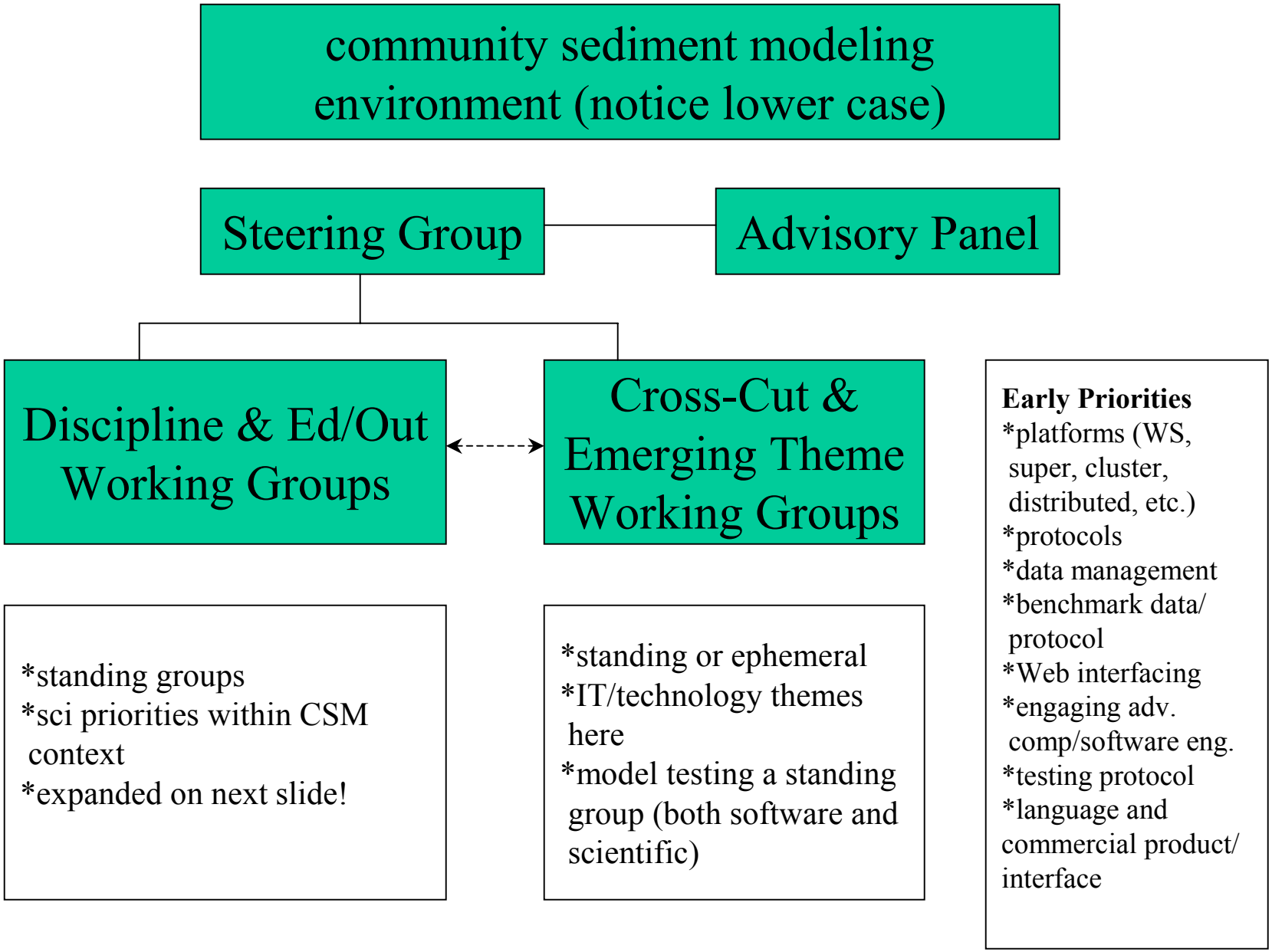
community sediment modeling environment (notice lower case)
Steering Group
Advisory Panel
Discipline & Ed/Out Working Groups
Cross-Cut & Emerging Theme Working Groups
*standing groups
*sci priorities within CSM context
*expanded on next slide!
*standing or ephemeral
*IT/technology themes here
*model testing a standing group (both software and scientific)
Early Priorities
*platforms (WS, super, cluster, distributed, etc.)
*protocols
*data management
*benchmark data/ protocol
*Web interfacing
*engaging adv. comp/software eng.
*testing protocol
*language and commercial product/ interface

Working Group
Responsibilities

1) set scientific priorities for the group
2) tech. quality control
3) adequacy of testing
4) recommendations for resource prioritization
5) stimulate rfp's
6) scientific review / q.c.
7) technical documentation
8) Coordination of efforts with multi-agency funding opportunities/cycles
9) Coordination of freeze/release of modules

Key Issues:

1) modeling environment or modeling system (as opposed to an model). modeling enviroment includes the model components, the i/o tools, visualization tools, perhaps a gui, documentation.
2) the linkers and interfaces would be used to map between different modules.
3) protocols needed for linking between modules.
4) tools needed include: low-level (i/o error handling and data exchange); and a spatial framework and pde/flux solvers.
5) recommendations for design concepts: (see above)
6) use legacy codes.
7) flexibility regarding single vs. parallel/distributed computers to meet needs of wide range of users.
8) Hi-priority items that remain unresolved: computing platforms, protocols, refine the roles of working groups, steering committee, and advisory panel.

Modules in box-diagram:

1) Process modules: including legacy code, data assimilation.

2) Linking and mapping between process modules: data interfaces.

3) Tools: i/o, visualization, spatial, solvers, pre- and post-processing, utilities.

4) Protocols and standards: links between modules, i/o, documentation conventions, standards, test data.

5) Benchmarks and test cases: data sets, lab data, analytical solutions.

Objectives for first 0-5 years:

1) establish protocol

2) creation of toolkit.

3) contribution of legacy code from many environments.

4) data structures built.

5) benchmarking with data sets.

6) realize benefits from the effort- linked models with some interesting results that are not possible with individual modules. answer some questions that address a national need. need to address a grand challenge within 0-10 years. Suggestions for the "grand challenge": land use change? coastal sedimentation? biological linkages?

7) communication tools operable for larger community: web-site,

High Priority issue of computational platform or computing languages to be chosen. many issues including logistical and performance, and even legal (can we recommend a private-industry code like Matlab)?

Design Issues

- Environment modeling system (components, I/O, tools, GUI, doc.)
- Links for legacy code (interface/mapper)
- Protocols
- “Tools”
  - Low-level (I/O, error handling, data exchange)
  - Spatial FMK, PDE/flux solvers
- Other requirements
- Legacy codes
- Flexibility: single vs. Parallel/distributed
- High-priority items (language, platforms)

SME

Sediment Modeling Environment considerations

Process Modules	Linking, Mapping and Data interface	Tools	Protocols	Benchmarking
…	…	I/O Visualisation Spatial solvers Pre/post utilities	Module links Module I/O Doc. conventn. Standards & compatibility Test data req. Benchmarking protocols	Data sets Prototcols

Tentative Software Architecture