Subject: Specifications for the Modules TR
From: Van Snyder

(1) It shall be possible for a module to have submodules.

(a) Submodules may have submodules.

(b) The only entities of submodules that are accessible by use association are the bodies of procedures that have a separate interface body, provided their interface bodies are declared in the scoping unit of their ancestor module and have public accessibility.

(c) A submodule depends on its parent program unit, and accesses it by host association.

(d) A submodule name is a global name, so as not to require deeper submodules to specify the entire genealogy of their parent program unit.

(e) **Straw vote**: should nonsaved submodule variables retain their definition status and values

(i) While the variables of the ancestor module retain their definition status and values, or

(ii) While a procedure in the submodule or any of its descendant submodules is executing?

(2) It shall be possible to specify an interface body for a module procedure in the *specification-part* of a module or submodule, and define its body in the *module-subprogram-part* of the same program unit or one of its descendant submodules.

(a) The interface body for a module procedure shall access its environment by host association.

(b) It shall be obvious, both to a human and processor, whether the definition of a procedure body is the definition of a new procedure (which might be a host override of an interface body having the same name), or an implementation of a procedure that has a separate interface body.

(c) If a procedure body is a definition of one that has a separate interface, it shall be optional whether the interface is redeclared.

(d) If the interface is redeclared in the procedure body it shall be identical to the interface declared by the interface body, except that the procedure body's declaration may specify that the procedure is pure even if the declaration in the interface body doesn't (but not vice-versa). It is desirable that the declaration of the procedure's interface in its interface body shall have the same syntax as the redeclaration of its interface in its procedure body.

(3) Modules may have initializers (see 02-324 for detailed specifications and syntax). In the text of the technical report, module initializers shall be described in an easily-severable manner.