Example Summarizing
N1434

Simplest Case

Main Program

Has access to public entities of M and procedure bodies in CM that have public interfaces in M.

Module M

Public Entities, including interfaces for procedures with bodies in CM.

Private entities.

Entities accessible by USE association are RED.

Submodule (M) :: CM

Variables, Constants, Types

Bodies of procedures that have public interfaces in M

All other procedures

Main program depends on module M, but not on submodule CM.

Submodule CM depends on module M, not vice-versa.
Summary of N1434

Module M

- Interfaces to Public Procedures in Submodules
- Other Public Entities Declared in M

Private Entities accessible from CM1, CM2 and their submodules

Submodule(M) :: CM1
- Bodies for procedures with public interfaces in M
- Private Entities accessible from submodules of CM1, but not from M, CM2 or submodules of CM2

Submodule(M) :: CM2
- Bodies for procedures with public interfaces in M
- Private Entities accessible from submodules of CM2, but not from M, CM1 or submodules of CM1

Submodules of CM1 and CM2
- Bodies for procedures with public interfaces in M, but that are deferred in CM1 or CM2

Entities Accessible by USE association of M are RED.

Not accessible by USE association.
Main Program

```plaintext
USE M
! Accesses M, and
! procedures in CM1
! and CM2 that have
! public interfaces
! in M.
```

Example Summarizing N1434

**Main Part**

- **Module M**
  - Public Entities
    - Interfaces for procedures in child submodules CM1, CM2
    - Private entities (procedures etc.)
  - Child submodule of M
    - Submodule(M) :: CM1
      - Private Entities
        - Bodies for interfaces in M
        - Interfaces to CM1A, CM1B
        - Has access to all of M, procedures in CM2 with interfaces in M, and procs in CM1A and CM1B with interfaces here.
  - Another Child submodule of M
    - Submodule(M) :: CM2
      - Private Entities
        - Bodies for interfaces in M
        - Has access to all of M, procedures in CM1 with interfaces in M, but not CM1A or CM1B

**Entities accessible from the main program by USE association of M are RED**

**Entities accessible from CM1A are BLUE** (and the RED ones are, too)

**Entities accessible from CM1A are BLUE** (and the RED ones are, too)

**Child submodule of CM1**

- Submodule(JM1) :: CM1A
  - Private Entities
    - Bodies for interfaces in M
    - Bodies for interfaces in CM1
    - Has access to all of M and CM1, but not CM2 or CM1B (except for interfaces declared in CM1).

- Another Child submodule of CM1
  - Submodule(CM1) :: CM1B
    - Private Entities
      - Bodies for interfaces in M
      - Bodies for interfaces in CM1
      - Has access to all of M and CM1, but not CM2 or CM1A