Diagram of Flow Constructs within STIL

Standard Libraries via Includes
(could be blocked like MacroDefs)
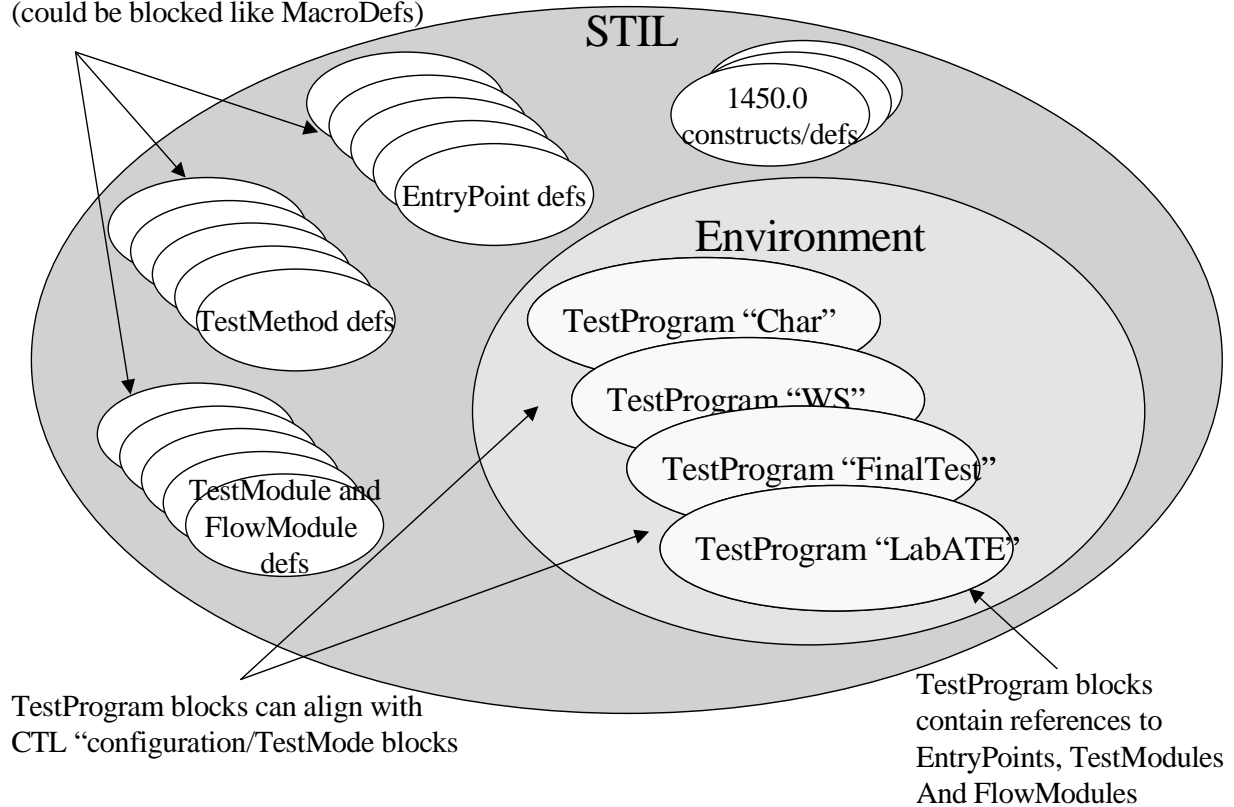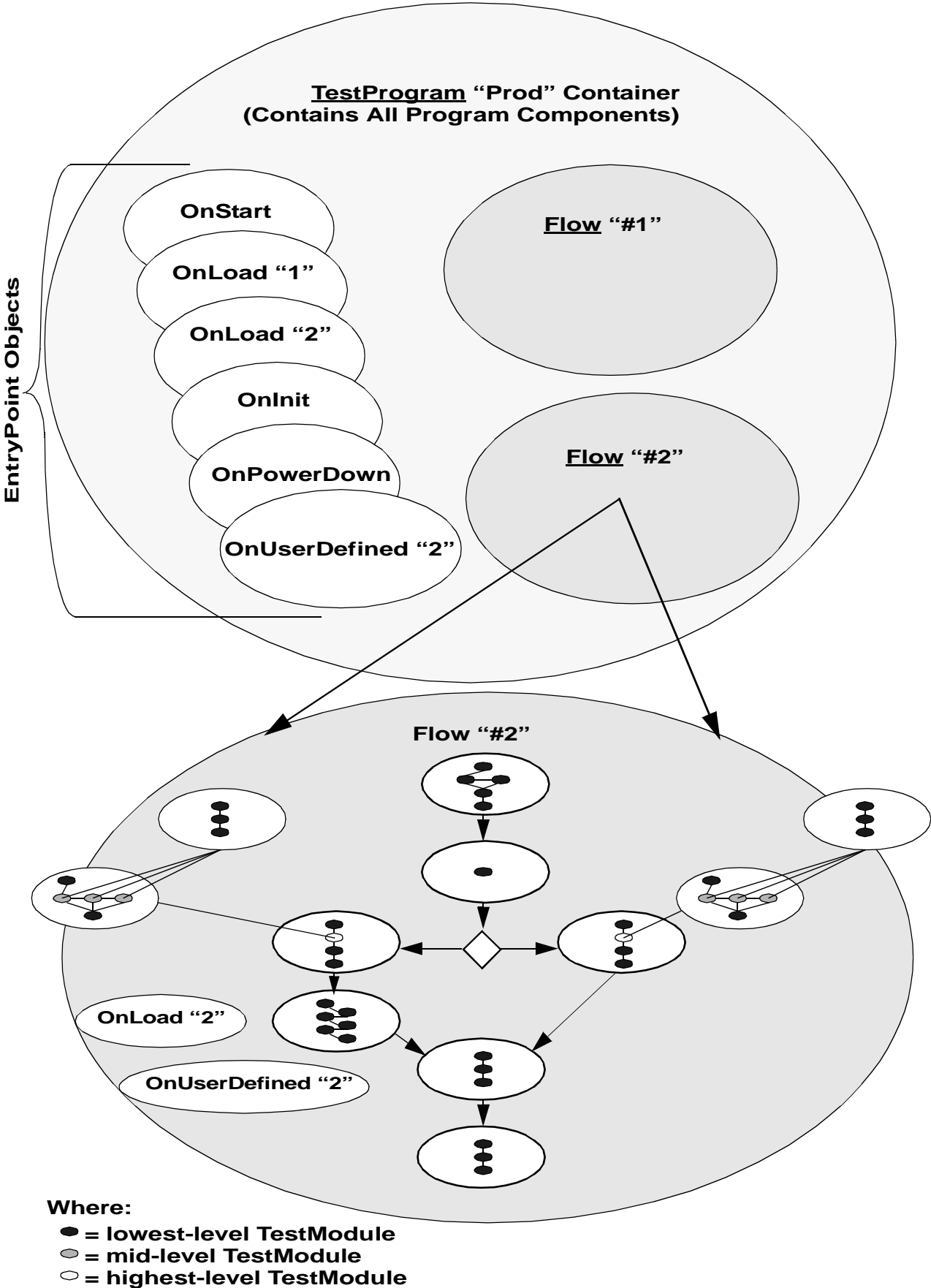
STIL

1450.0
constructs/defs

EntryPoint defs

TestMethod defs

Environment

TestProgram "Char"

TestProgram "WS"

TestProgram "FinalTest"

TestModule and
FlowModule
defs

TestProgram "LabATE"

TestProgram blocks can align with
CTL "configuration/TestMode blocks

TestProgram blocks
contain references to
EntryPoints, TestModules
And FlowModules

Figure A: Test Program Layers

TestProgram "Prod" Container
(Contains All Program Components)

EntryPoint Objects

OnStart

OnLoad "1"

OnLoad "2"

OnInit

OnPowerDown

OnUserDefined "2"

Flow "#1"

Flow "#2"

Flow "#2"

OnLoad "2"

OnUserDefined "2"

Where:

= lowest-level TestModule

= mid-level TestModule

= highest-level TestModule

Test Flow Extension Terms:

TestProgram Block:

The top level test program construct. There can be one or more. One may be global (unnamed). There may be one or more named TestProgram blocks in a STIL file.

Flow Block (or TestFlow):

This is the top level program flow construct. There can be one unnamed Flow block. There can be one or more named Flow blocks. This block contains definition of flow and bin entities that make up a given test program flow.

EntryPoint:

This is a reference to a special program level task activated by the tester (tester operating system, system interrupts, etc.) This entry point references a TestModule. There is a general set of EntryPoint entities defined by this extension (i.e. OnStart, OnReset, etc.). These can be named and one instance of each can be unnamed and treated as global to any Flow block that does not declare a named one of each type. When a flow is active and a tester event requires an EntryPoint response, the associated EntryPoint TestModule/ FlowModule that was declared, or the default if not declared is run.

FlowNode:

(See Figure1) A node in the program flow that contains a ModuleRef (Body) that references a TestModule or FlowModule. This node has PreActions that defines the entry point into the node and may contain actions, declarations such as Spec/Category selection, etc. Absence of actions may in the Pre section may cause default actions (tbd). The Post section contains PostActions, Arbitrator, and ExitActions. The ExitActions give directives as to the follow-on flow path taken out of the FlowNode.

TestModule:

(See Figures 2 and 3)
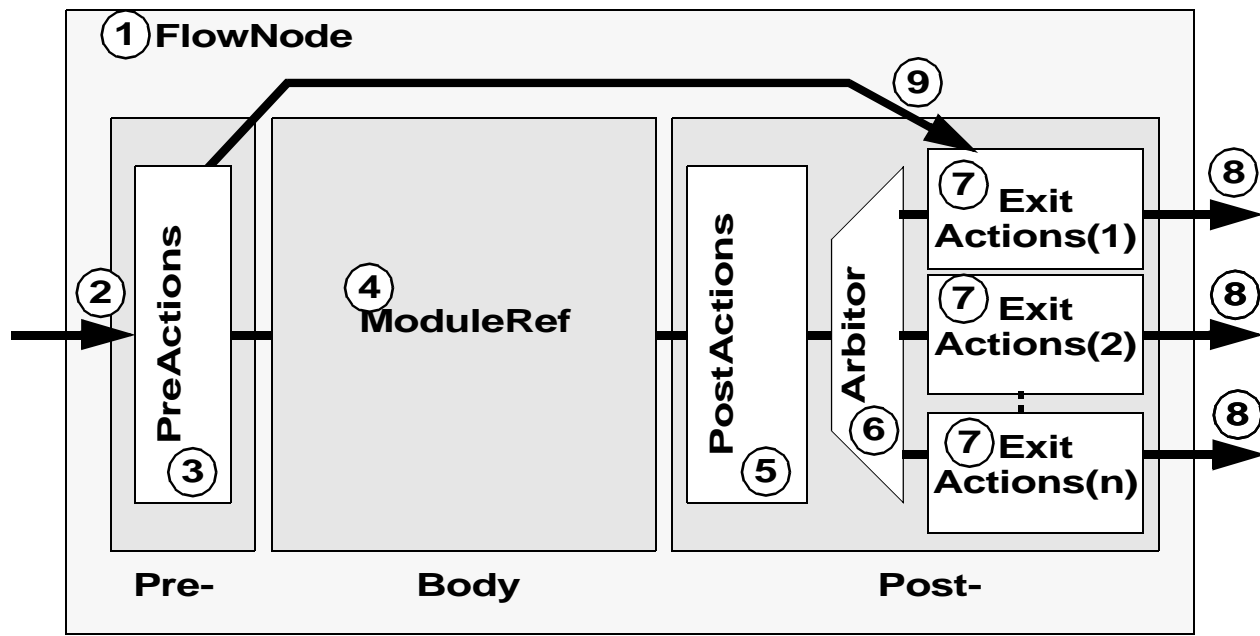
FlowModule:

(See Figure 4)

BinNode and BinMap: Not yet defined/discussed

(Need two natures: terminal and flow-through)

TaskNode and DecisionNode:

Are non-test type nodes used for non-test activities and flow decision content.

Figure 1: A FlowNode Diagram with Its Named Parts

FlowNode Elements Terms

1. FlowNode
2. EntryPath
3. PreActions Block
4. ModuleRef (Module Reference)
5. PostActions Block
6. Arbitor Block
7. ExitActions Block
8. ExitPath
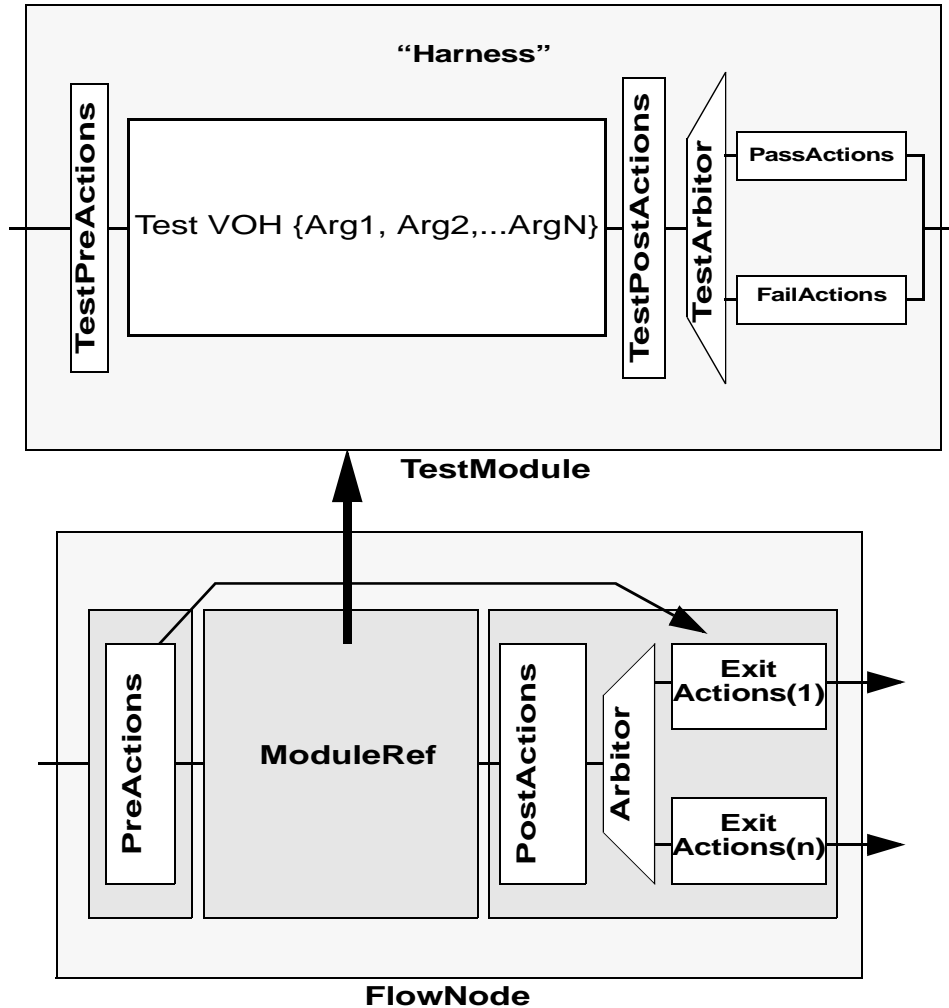9. SkipPath (this path can goto to any ExitAction Block)

Informative Terms:

Pre-

Body

Post-

Figure 2: Relationship of a FlowNode to a TestModule

"Harness"

TestPreActions

Test VOH {Arg1, Arg2,...ArgN}

TestPostActions

TestArbitor

PassActions

FailActions

TestModule

PreActions

ModuleRef

PostActions

Arbitor

Exit Actions(1)

Exit Actions(n)

FlowNode

Note:

The instantiation of the TestMethod (i.e. VOH) can be "in-line" or "defined-before-use". "Define-before-use" is the mechanism by which two or more FlowNodes can refer to the same "Test Object" (i.e. Module). Test Module instantiation involves placing the instantiated TestMethod inside the harness as shown to the left (the harness is the grey portion of the box labeled TestModule.)

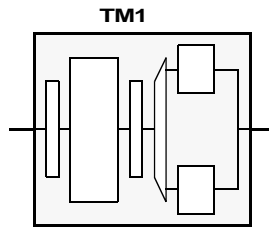TestMethod "VOH" {Arg1, Arg2,...ArgN}

is the type definition, and

Test VOH {Arg1, Arg2,...ArgN}

is the instantiation of the VOH TestMethod in the test module.

Figure 3: Two "out-flow" Configurations for TestModules

3A: Two Exits Joint to One Point for Later Arbitor Action
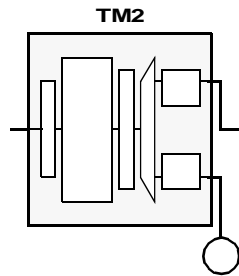
3B: Classic Two Exits: One Pass, One to Failure Terminal Point

TM1

TM2

Figure 4: An Example of a FlowModule

"Harness"

Test Flow...

FlowPreActions

FN1   FN2   FNn

TMA   TMB   TMn

FlowPostActions

FlowArbitor

PassActions

FailActions

TestModule