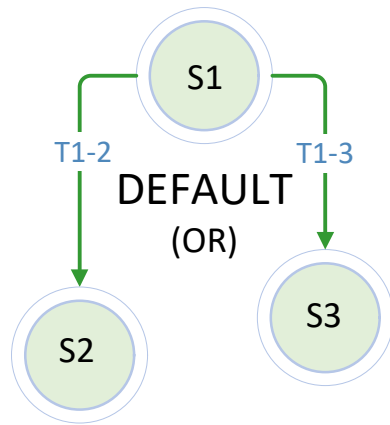# Reference Model

Usual behaviour is to emit a single transition, multiple are allowed.

S1

T1-2   T1-3

DEFAULT
(OR)

S2   **S3**

Tx-Z

SZ

Null transition emitted by default if no other emitted. Null transition can end a path. A single transition will be emitted automatically.

S1

T1-2-3

S2   →   **S3**
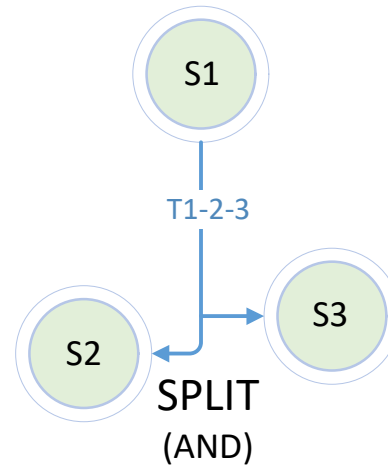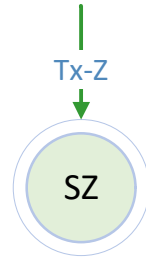
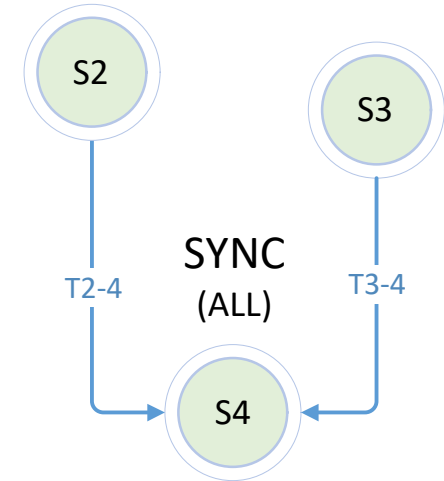## SPLIT
(AND)

Forks & Splits allow multiple concurrent paths through a Workflow.

All Sync transitions must be emitted before Target state is executed.

S2   **S3**

T2-4   ## SYNC   T3-4
(ALL)

S4

Sync & Merge both require all Origin states to execute for transition.

No State may have any dependency on a state that is not a direct ancestor.

Default State:
Should transition out when transitioned to. No transition ends path.

Idle State:
Transition out maybe deferred. Workflow maybe resumed from an Idle state. Engine stops when all active states are Idle states.

Terminal State:
Transition out not permitted. Workflow is finished when only Terminal state is active state. Always runs as only state in final dispatch cycle.

When multiple states are active in a dispatch cycle, they execute in the order defined in the model.
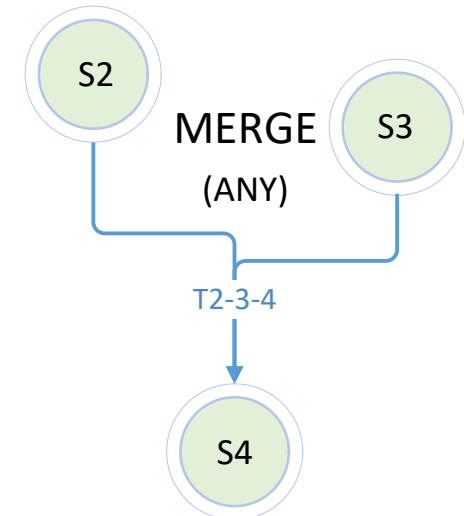

S1

T1-2   T1-3

FORK
(AND)

S2   **S3**

All Fork transitions must be emitted for Targets states to execute. Origin state will execute each cycle until transitioned.

S2   **S3**

MERGE
(ANY)

T2-3-4

S4

For MERGE, any Origin can emit the single transition, it must be the first to execute. All Origin states must execute, possibly in different dispatch cycles.