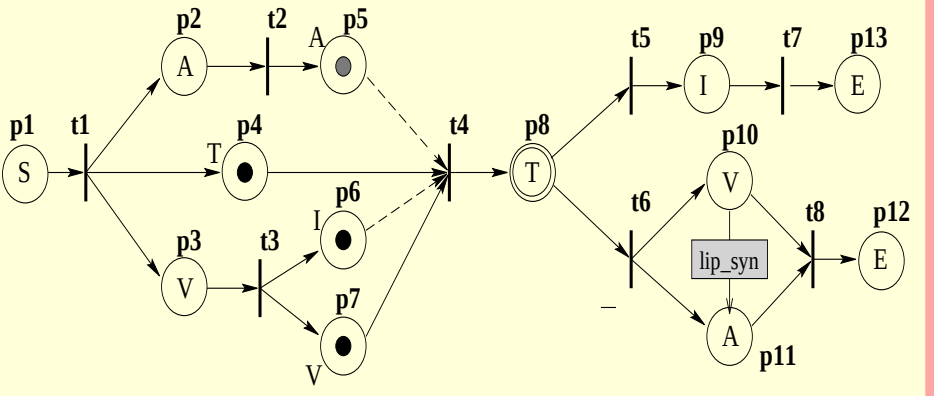
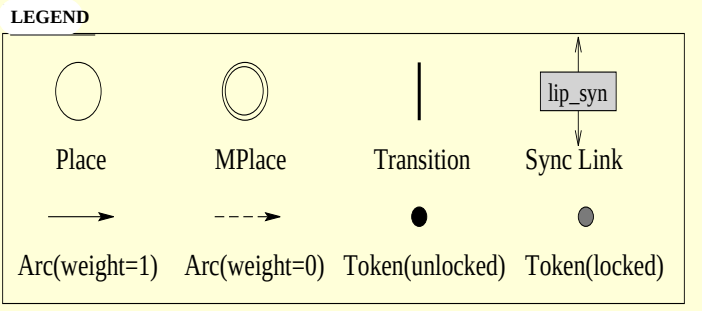
GOCPN

Definition: A GOCPN is a 10-tuple $G = \{P, T, A, AW, PO, PD, PS, POp, TF, SL\}$.

- $P = \{p_1, p_2, ..., p_m\}$ is a finite set of places with $m \geq 0$.
- $T = \{t_1, t_2, ..., t_n\}$ is a finite set of transitions with $n \geq 0$ and $P \cap T = \Phi$.
- $A = \{P \times T\} \cup \{P \times T\}$ is a mapping representing arcs between places and transitions.
- *AW*: $A \rightarrow B$, $B = \{0, 1\}$ is a weight function of arcs; It is used to determine the token flow and firing condition of the net.
- *PO*: $P \rightarrow \{C \times Q\}$ is a mapping of places to the content set C and QoP (Quality of Presentation) set Q.
- *PD*: $P \rightarrow D$ represents playout duration of the media object with *D* as the integer set.
- *PS*: $P \rightarrow S$ represents the spatial information of the media object.
- *POp*: $P \rightarrow Op$ defines media operations. *SL*: $\{P \times P\} \rightarrow I$ represents lip-sync link between two places. *I* is an integer set that represents maximum skew allowed between two media objects measured by discrete time units.
- *TF*: $T \rightarrow \{AType, EType\}$ differentiates transition types by its firing rules. For *Atype* transition, its firing mode is automatic(A). For *Etype* transition, its firing mode is event-driven(E).
- *SL*: $\{P \times P\} \rightarrow I$ represents lip-sync link between two places. I is an integer set representing maximum skew allowed between two media objects measured by discrete time.

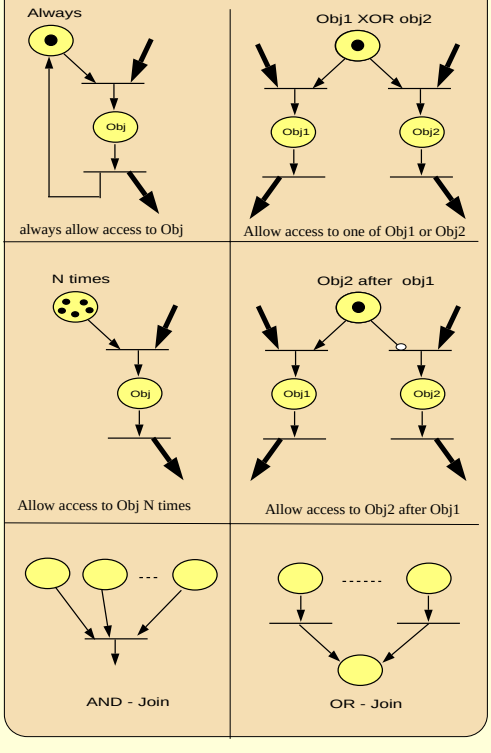


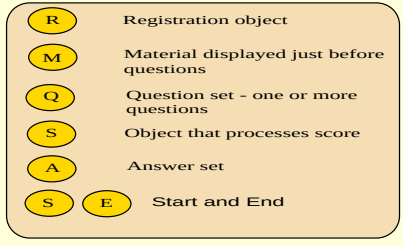


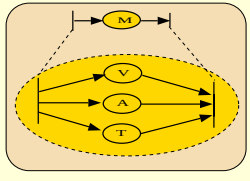
Keys

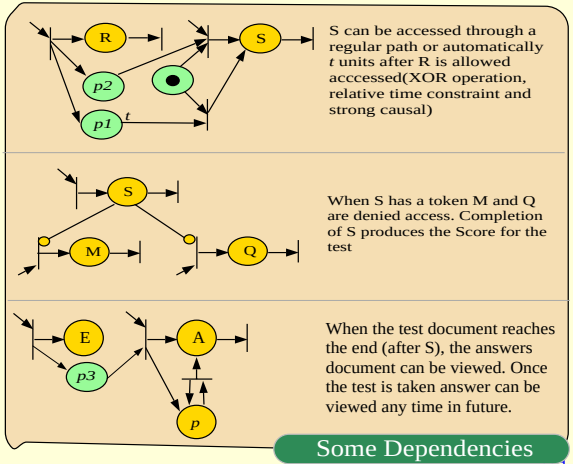
A: Audio
I: Image
T: Text
V: Video
S: Start
E: End

Some Access Control Operations

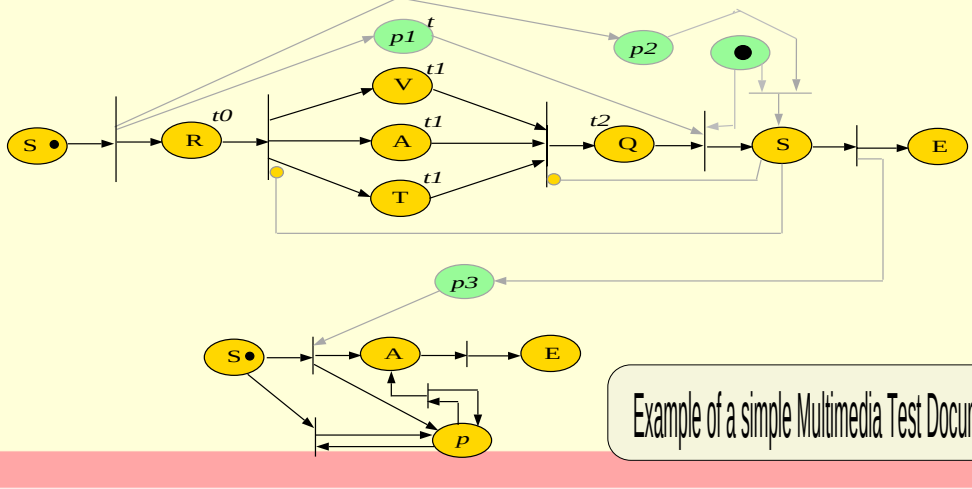








Some Dependencies

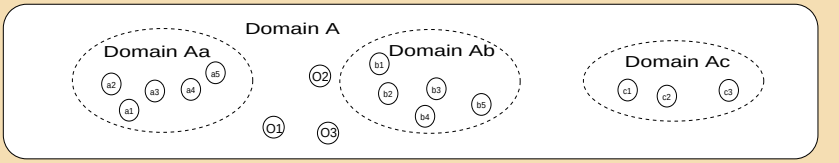


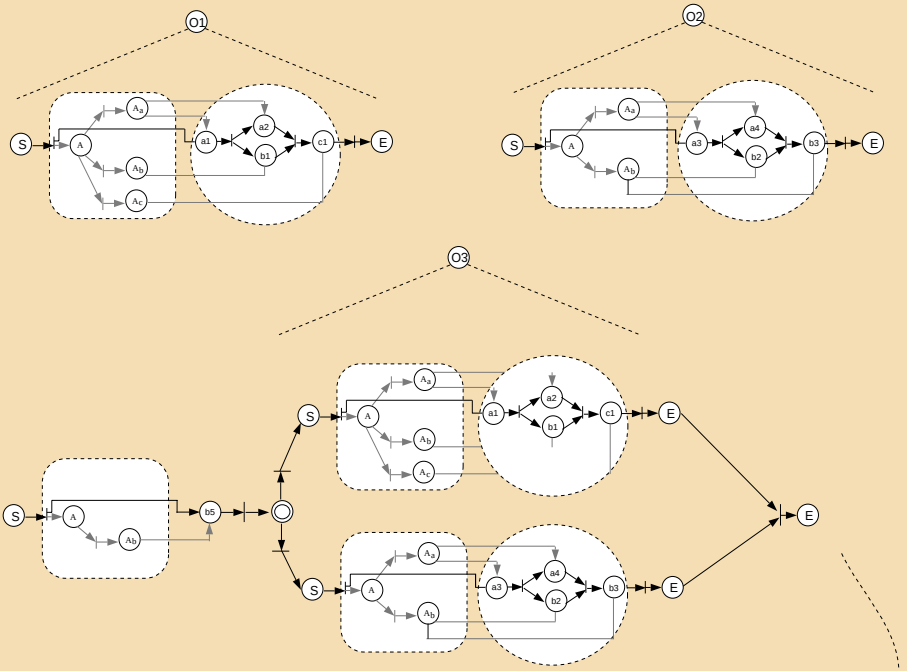
Example of a simple Multimedia Test Document

Example of Incremental composition

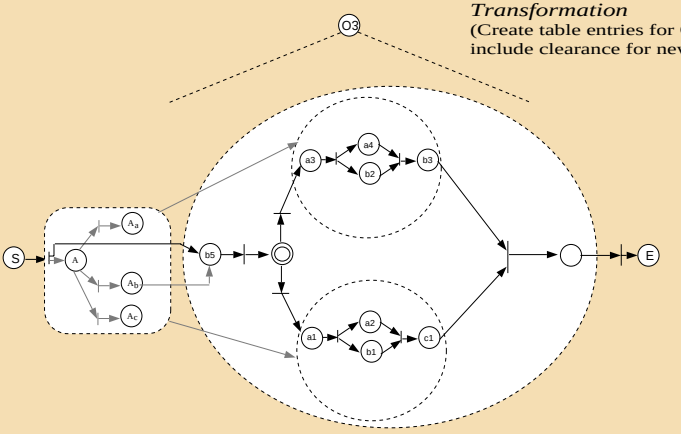
Composition of document O3. ai, bi, ci are basic multilevel objects

System with multiple domains





Transformation
(Create table entries for O3,
include clearance for new users)



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