

Structural properties

ordinary — all arcs have multiplicity one	X
simple free choice — all transitions sharing a common input place have no other input place	X
extended free choice — all transitions sharing a common input place have the same input places	?
state machine — every transition has exactly one input place and exactly one output place	X
marked graph — every place has exactly one input transition and exactly one output transition	X
connected — there is an undirected path between every two nodes (places or transitions)	?
strongly connected — there is a directed path between every two nodes (places or transitions)	?
source place(s) — one or more places have no input transitions	?
sink place(s) — one or more places have no output transitions	?
source transition(s) — one or more transitions have no input places	?
sink transitions(s) — one or more transitions have no output places	?
loop-free — no transition has an input place that is also an output place	?
conservative — for each transition, the number of input arcs equals the number of output arcs	?
subconservative — for each transition, the number of input arcs equals or exceeds the number of output arcs	?
nested units — places are structured into hierarchically nested sequential units ^(a)	X

Behavioural properties

safe — in every reachable marking, there is no more than one token on a place	?
dead place(s) — one or more places have no token in any reachable marking	?
dead transition(s) — one or more transitions cannot fire from any reachable marking	?
deadlock — there exists a reachable marking from which no transition can be fired	?
reversible — from every reachable marking, there is a transition path going back to the initial marking	?
live — for every transition t , from every reachable marking, one can reach a marking in which t can fire	?

Size of the marking graph

number of reachable markings:	?
number of transition firings:	?
max. number of tokens per place:	?
max. number of tokens per marking:	?

Other properties

Any packet created by the *PacketArrival* transition will eventually be the binding of either the *DropPacket* transition or the *CorrectPacketAck* transition.

^(a)the definition of Nested-Unit Petri Nets (NUPN) is available from <http://mcc.lip6.fr/nupn.php>