

Result of the Questionnaire

(preliminary to the reflexion of building an exchange format standard)

Introduction

Please find here the answers to the questionnaire dedicated to the definition of the main characteristics of Petri net dialects used in tools. If you have problems viewing this **BIG** table (It is possible with Netscape), you can get the [pdf file here](#).

Objectives of this form

The aim of this form is to gather information about **current** tools for editing dialects of Petri nets. This information will be used for defining a common XML representation of models. Such a common representation will be of great help for allowing seamless integration of Petri nets based editing tools.

This questionnaire **does not** focus on Tool functions themselves.

Registered Petri nets tools

tool information						
Tool	PN dialect	PN type	PN-type if others	email	URL	Origin
Artifex	Extended Petri Nets	High level nets		info@artis-software.com	http://www.artis-software.com	Company
CoopnTools	CO-OPN	Others	O-O algebraic Petri nets	Didier.Buchs@epfl.ch	http://lglwww.epfl.ch/Conform	Academic (free)
CPN-AMI	AMI-Nets	Well Formed Colored Nets		Fabrice.Kordon@lip6.fr	http://www-src.lip6.fr/CPN-AMI	Academic (free)
DaNAMiCS	GSPNs	Colored Nets		idavies@cs.uct.ac.za	http://www.cs.uct.ac.za/Research/DNA/DaNAMiCS/	Academic (sold)
DAWN Tool (based on the PNK)	DAWN nets	Others	Algebraic net schemes	kindler@informatik.hu-berlin.de	http://www.informatik.hu-berlin.de/top/Projekte/Tools/index-eng.html#DAWNtool	Academic (free)
Design/CPN	Coloured Petri Nets	Colored Nets		khm@daimi.au.dk	http://www.daimi.au.dk/designCPN/	Academic (free)
DSPNexpress 2000	DSPNs	Place/Transition nets		dspn@ls4.cs.uni-dortmund.de	http://www4.cs.uni-dortmund.de/~Lindemann/	Academic (free)
EDS Petri Net Tool	Predicate nets	Others	Stochastic Timed Coloured Nets	ptrmrgn@attglobal.net		Company
ExSpect	ExSpect-Nets	High level nets		exspect@bakkenist.nl	http://www.exspect.com/	Company
GreatSPN	GSPN, SWN	Others	both Stochastic & WellFormed	greatspn@di.unito.it	http://www.di.unito.it/~greatspn	Academic (free)
HiQPN-Tool	Queueing Petri Nets	Others	Hierarchical Stoch.PNs + queues	bause@ls4.cs.uni-dortmund.de	http://ls4-www.informatik.uni-dortmund.de/QPN	Academic (free)
INCOME Process Designer	Extended petri pets	Predicate/transition		Carsten.Gentner@promatis.de	http://www.promatis.com	Company
Integrated Net Analyzer INA	PNT-Nets	Others	Place/Transition, Colored Nets	roch@informatik.hu-berlin.de	http://www.informatik.hu-berlin.de/lehrstuehle/automaten/ina/	Academic (free)
LoLA	place/transition nets	Place/Transition nets		kschmidt@informatik.hu-berlin.de	http://www.informatik.hu-berlin.de/~kschmidt/lola.html	Academic (free)
Maria	Algebraic System Nets	High level nets		msmakela@saturn.tcs.hut.fi	http://www.tcs.hut.fi/Software/maria/	Academic (free)
MISS-RdP	MISS-RdP nets	High level nets		jean-claude.hochon@ixi.fr	http://www.ixi.fr/tools/	Company
Moses Tool Suite	Compositional PN Structures	High level nets		janneck@tik.ee.ethz.ch	http://www.tik.ee.ethz.ch/~moses	Academic (free)
PACE	Extended Petri Nets	High level nets		info@ibepace.com	http://www.ibepace.com	Company
PED	Place/Transition nets	Place/Transition nets		ped@informatik.tu-cottbus.de	http://www-dssz.informatik.tu-cottbus.de/~wwwdssz/software/ped.html	Academic (free)
PEP	M-nets	High level nets		pep_help@informatik.uni-oldenburg.de	theoretica.informatik.uni-oldenburg.de/~pep	Academic (free)
PetriSim	Time-nets	Place/Transition nets		jskl1@stator.um.edu.mt	http://staff.um.edu.mt/jskl1/petrisim/index.html	Academic (free)
PetShop	Cooperative Objects	Others	Cooperative Objects	bastide@cict.fr		Others
PN-COS	SPN (Structured Petri Nets)	High level nets		hel@cos.ru	http://www.cos.ru	Academic (sold)
PNSim	?	Place/Transition nets		markatatos@iname.com	http://www.elyros.com/PNSim/	Academic (free)
PNtalk	OOPN/PNtalk	Others	Object-Oriented Petri Nets	vojnar@dcse.fee.vutbr.cz	http://www.fee.vutbr.cz/~janousek/pntalk	Academic (free)
Poses++	? language we call also Poses	High level nets		poses@gpc.de	http://www.gpc.de	Company
PROD	PROD-Nets	Predicate/transition		Kimmo.Varpaaniemi@hut.fi	http://www.tcs.hut.fi/Software/prod/index.html	Academic (free)
Renew	reference nets	High level nets		support@renew.de	http://renew.de	Academic (free)
SEA	Extended Pr/T-Nets	Predicate/transition		car@c-lab.de	http://www.c-lab.de/sea	Academic (free)
SYROCO	CoOperative Objects	High level nets		sibertin@univ-tlse1.fr	http://www.univ-tlse1.fr/CERISS/Syroco.html	Academic (free)
The Model Checking Kit	various dialects	High level nets		mckit@in.tum.de	http://wwwbrauer.informatik.tu-muenchen.de/gruppen/theorie/KIT/	Academic (free)
TimeNET	(coloured)eDSPN, DDSNP	Others	coloured non-markovian nets	timenet@cs.tu-berlin.de	http://pdv.cs.tu-berlin.de/forschung/timenet/	Academic (free)
VIPtool	VIPmodel Nets	High level nets		tfr@aifb.uni-karlsruhe.de	http://www.aifb.uni-karlsruhe.de/InfoSys/VIP/overview/	Academic (free)

WebSPN	NMSPN	Others	Non Markovian Stochastic Nets	mcarpa@iit.unict.it , apulia@iit.unict.it	http://sun195.iit.unict.it/WebSPN	Academic (free)
Woflan	TPN-Nets	Place/Transition nets		h.m.w.verbeek@tm.tue.nl	http://www.win.tue.nl/~woflan	Academic (free)

Petri net definitions

Tool	Color domain or type						Color function or operation										Extra elements
	black token	finite/enumeration	product of finite domain	any type definition	product of any type	Others	constant	identity	produc/record	modulo successor	modulo predecessor	broadcast	marking dependent functions	any user function	Sigma-algebra	Others	
Artifex	Yes	No	No	Yes	Yes	No	Yes	No	No	No	No	Yes	No	Yes	No	No	● queues
CoopnTools	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No	
CPN-AMI	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	
DaNAMiCS	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No	
DAWN Tool (based on the PNK)	No	No	No	Yes	No	No	No	No	No	No	No	Yes	No	No	Yes	No	● Specification of algebras ● Concrete Algebras
Design/CPN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	● record type ● union type ● subset type
DSPNexpress 2000	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	
EDS Petri Net Tool	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	
ExSpect	Yes	No	No	Yes	Yes	No	Yes	No	Yes	No	No	No	No	Yes	No	No	
GreatSPN	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	
HiQPN-Tool	No	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No	queues
INCOME Process Designer	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No	No	Yes	No	No	● Organisation model ● Object model ● Access rights
Integrated Net Analyzer INA	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
LoLA	Yes	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No	
Maria	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	● variable-length buffer type (queue and stack) ● arrays can be indexed by structured types ● user-defined functions ● multi-set operations: sum, filter, item mapping, multiplicity mapping
MISS-RdP	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No	No	No	No	No	No	
Moses Tool Suite	Yes	No	No	Yes	No	No	Yes	No	No	No	No	No	No	Yes	No	No	● interface specification
PACE	Yes	No	No	No	No	No	Yes	No	No	No	No	No	Yes	Yes	No	No	● channel ● module ● tokens may have attributes
PED	Yes	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No	
PEP	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	Yes	No	No	● Transition modes
PetriSim	Yes	No	No	No	No	No	Yes	No	No	No	No	No	No	Yes	No	No	
PetShop	No	No	No	No	Yes	No	No	No	No	No	No	No	No	Yes	No	No	
PN-COS	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	Yes	No	No	No	
PNSim	Yes	No	No	No	No	No	Yes	Yes	No	No	No	No	No	No	No	Yes	
PNtalk	No	No	No	No	Yes	No	No	No	No	No	No	No	No	Yes	No	No	
Poses++	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
PROD	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	● a tester ● an LTL-formula to be verified ● a relation between priorities ● C preprocessor directives
Renew	Yes	No	No	Yes	No	No	Yes	No	No	No	No	No	No	Yes	No	No	
SEA	No	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No	No	
SYROCO	No	No	No	Yes	Yes	No	Yes	Yes	No	No	No	No	No	Yes	No	No	● type are defined in imported C++ files

The Model Checking Kit	Yes	Yes	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No
TimeNET	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No	Yes	No	No
VIPTool	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes
WebSPN	Yes	Yes	No	No	No	No	Yes	No	Yes	No	No	No	Yes	No	No
Woflan	Yes	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No

Place definition

Tool	Places characteristics									marking value				Extra information
	typed place	special place	FIFO	Others	capacity	priority	probability	time	delay	boolean	integer	bag/multiset	terms	
Artifex	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	No	
CoopnTools	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	
CPN-AMI	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	
DaNAMiCS	Yes	No	No	No	Yes	No	No	No	No	No	No	Yes	No	
DAWN Tool (based on the PNK)	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	
Design/CPN	Yes	No	No	No	No	No	No	Yes	Yes	No	No	Yes	No	
DSPNexpress 2000	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	
EDS Petri Net Tool	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	Yes	No	● FIFO, LIFO & Boolean
ExSpect	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	No	
GreatSPN	Yes	No	No	No	No	Yes	No	No	No	No	No	Yes	No	
HiQPN-Tool	Yes	Yes	No	Yes	Yes	No	No	No	Yes	No	No	Yes	No	● queue ● scheduling strategies
INCOME Process Designer	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No	Yes	No	● Description, Problemfields ● Assigned Documents ● Free definable additional fields ● costs
Integrated Net Analyzer INA	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No	Yes	No	
LoLA	No	No	No	No	No	No	No	No	No	No	Yes	No	No	
Maria	Yes	Yes	No	Yes	Yes	No	No	No	No	No	No	Yes	No	● Tester place for e.g. livelock detection ● capacity constraint: union of closed ranges, e.g. (1..3,6..8)
MISS-RdP	Yes	Yes	No	Yes	Yes	No	No	No	No	No	Yes	No	No	
Moses Tool Suite	Yes	Yes	No	Yes	Yes	No	No	No	No	No	No	Yes	No	
PACE	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	
PED	No	No	No	No	Yes	No	No	Yes	Yes	No	Yes	No	No	
PEP	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	
PetriSim	No	No	No	No	No	No	No	No	No	No	Yes	No	No	
PetShop	Yes	Yes	No	Yes	No	No	No	No	No	No	No	Yes	No	
PN-COS	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	No	
PNSim	Yes	No	No	No	Yes	No	No	No	No	No	Yes	No	No	
PNtalk	Yes	Yes	No	Yes	No	No	No	No	No	No	No	Yes	No	● method net parameter places ● method net return places ● initial actions of places
Poses++	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	Yes	
PROD	Yes	Yes	No	Yes	No	No	No	No	No	No	No	Yes	No	
Renew	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	
SEA	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	
SYROCO	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	No	No	Yes	No	● ordering of token in places: FIFO, LIFO, random, user define ● an action may be associated to moving tokens from/into a place
The Model Checking Kit	Yes	No	No	No	No	No	No	No	No	No	Yes	No	No	
TimeNET	Yes	No	No	No	Yes	No	No	No	No	No	No	Yes	No	
VIPTool	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No	
WebSPN	No	No	No	No	No	No	No	No	No	No	Yes	No	No	
Woflan	No	No	No	No	No	No	No	No	No	No	Yes	No	No	

Arc definition

Tool	labels				type of arcs					arc information		Extra information
	always 1	integer	single variable	expression	pre	post	test	inhibitor	others	guard	time	
Artifex	Yes	No	No	No	Yes	Yes	Yes	No	No	No	No	● double direction arc
CoopnTools	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	
CPN-AMI	No	No	No	Yes	Yes	Yes	No	No	No	No	No	
DaNAMiCS	No	Yes	No	No	Yes	Yes	No	Yes	No	No	No	
DAWN Tool (based on the PNK)	No	No	No	Yes	Yes	Yes	No	No	Yes	No	No	● fair arcs
Design/CPN	No	No	No	Yes	Yes	Yes	No	No	Yes	No	Yes	● double direction arcs
DSPNexpress 2000	No	No	No	Yes	Yes	Yes	No	Yes	No	Yes	No	
EDS Petri Net Tool	Yes	No	No	No	Yes	Yes	No	No	No	No	No	
ExSpect	Yes	No	No	No	Yes	Yes	No	Yes	No	No	Yes	
GreatSPN	No	No	No	Yes	Yes	Yes	No	Yes	No	No	No	
HiQPN-Tool	No	Yes	No	No	Yes	Yes	No	No	No	No	No	
INCOME Process Designer	No	No	No	Yes	Yes	Yes	No	No	Yes	No	No	● Probability ● Multiplier ● Probability for costs and times
Integrated Net Analyzer INA	No	No	No	Yes	Yes	Yes	No	No	No	No	Yes	● arc expr. for selfmodifying nets (arc weight=formal sum of places) ● arc expr. for colored nets (matrices)
LoLA	No	Yes	No	No	Yes	Yes	No	No	No	No	No	
Maria	No	No	No	Yes	Yes	Yes	No	No	No	No	No	
MISS-RdP	Yes	No	No	No	Yes	Yes	No	Yes	Yes	No	No	
Moses Tool Suite	No	Yes	No	No	Yes	Yes	No	Yes	No	No	No	
PACE	Yes	No	No	No	Yes	Yes	No	Yes	No	No	No	● attributes
PED	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	
PEP	No	No	No	Yes	Yes	Yes	No	No	No	No	No	
PetriSim	No	Yes	No	No	Yes	Yes	No	Yes	No	No	No	
PetShop	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	
PN-COS	Yes	No	No	No	Yes	Yes	No	No	No	Yes	No	
PNSim	No	Yes	No	No	Yes	Yes	No	Yes	No	No	No	
PNtalk	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	
Poses++	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	
PROD	No	No	No	Yes	Yes	Yes	No	No	No	Yes	No	
Renew	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	● flexible arcs
SEA	No	No	Yes	No	Yes	Yes	Yes	Yes	No	No	No	
SYROCO	No	No	No	Yes	Yes	Yes	No	Yes	No	No	Yes	● time : min and max delay of staying
The Model Checking Kit	No	Yes	No	No	Yes	Yes	No	No	No	Yes	No	
TimeNET	No	No	No	Yes	Yes	Yes	No	Yes	No	No	No	
VIPTool	No	No	Yes	No	Yes	Yes	No	No	No	No	No	
WebSPN	No	Yes	No	No	No	No	No	Yes	No	No	No	
Woflan	Yes	No	No	No	Yes	Yes	No	No	No	No	No	

Petri net compositions

Tool	Type of net composition				type of net coordination							Extra information
	inclusion	hierarchy	modularity	others	place fusion	transition fusion	message passing	transaction	references	others		
Artifex	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No		
CoopnTools	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	● complex synchronizations between nets	
CPN-AMI	No	No	Yes	No	Yes	Yes	No	No	No	No	● Modularity by means of a dedicated composition tool	
DaNAMiCS	No	Yes	No	No	No	No	No	No	Yes	No		
DAWN Tool (based on the PNK)	No	No	No	No	Yes	No	No	No	No	No	● different pages + place fusion	
Design/CPN	No	Yes	No	No	Yes	No	No	No	No	No	● What is modularity?	
DSPNexpress 2000	No	No	Yes	No	No	No	No	No	No	No		
EDS Petri Net Tool	Yes	Yes	No	No	Yes	Yes	No	No	No	No		
ExSpect	No	Yes	No	No	Yes	No	No	No	No	No		
GreatSPN	No	No	No	No	No	No	No	No	No	No		
HiQPN-Tool	No	Yes	No	No	No	No	No	No	No	No	● place refinement	
INCOME Process Designer	No	Yes	No	No	Yes	No	No	No	No	No		
Integrated Net Analyzer INA	No	No	No	No	No	No	No	No	No	No		
LoLA	No	No	No	No	No	No	No	No	No	No		
Maria	No	No	No	No	No	No	No	No	No	No		
MISS-RdP	No	Yes	Yes	No	Yes	No	Yes	No	No	No		
Moses Tool Suite	No	Yes	Yes	No	No	No	Yes	No	Yes	No	● dynamic composition structures	
PACE	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	● initialization, interruption, continuation and termination codes ● external interfaces (DDE, DLL) ● many visualization objects ● special user interfaces	
PED	No	Yes	No	No	No	No	No	No	No	No		
PEP	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	● choice ● parallel composition ● scoping ● synchronisation, etc.	
PetriSim	No	No	No	No	No	No	No	No	No	No		
PetShop	No	No	No	No	No	No	No	No	Yes	No		
PN-COS	Yes	Yes	No	No	No	No	No	No	No	No		
PNSim	Yes	No	No	No	No	No	No	No	No	No		
PNtalk	No	No	No	No	No	No	Yes	No	Yes	No	● classes ● object nets ● method nets ● synchronous ports	
Poses++	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	No	● modules as C++ class like sub nets ● module fusion (similar to C++ reference constructors)	
PROD	Yes	No	No	No	No	No	No	No	No	No		
Renew	No	No	No	No	Yes	No	No	No	Yes	Yes	● synchronous channels	
SEA	Yes	Yes	No	No	Yes	Yes	No	No	No	No		
SYROCO	No	No	Yes	No	No	No	Yes	No	Yes	No	● Each net is executed as a separate process	
The Model Checking Kit	No	No	No	No	No	No	No	No	No	No		
TimeNET	No	Yes	No	No	No	No	No	No	No	No		
VIPTool	No	No	Yes	No	No	No	No	No	No	No		
WebSPN	No	No	No	No	No	No	No	No	No	No		
Woflan	No	No	No	No	No	No	No	No	No	No		