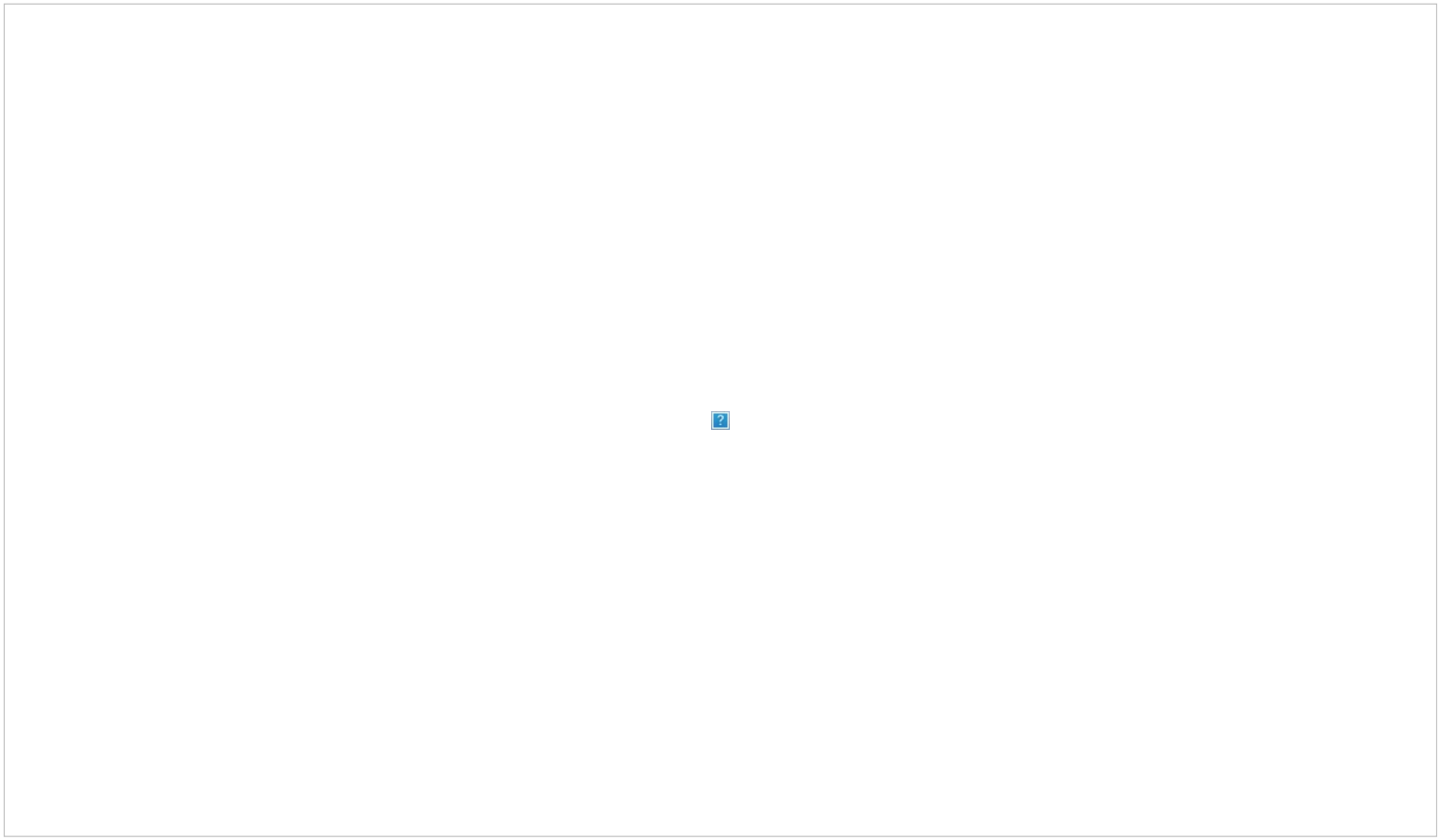
Model: CDCFModel



Place Attributes:

Place Names	Initial Markings
Checker	1
CheckerFailed	0
CheckerSilent	0
Doer	1
DoerErratic	0
DoerFailed	0
DoerWrongValidation	0
Fallback	1
FallbackErratic	0
FallbackFailed	0
FallbackWrongValidation	0
SafeState	0
Selectors	2
UnsafeState	0

Timed Activity:	CCF
Distribution Parameters	**Rate** `r_ccf`
Activation Predicate	(none)
Reactivation Predicate	(none)

Case Distributions	**case 1**
	`p_ccf2of3`
	case 2
	`p_ccf2of3`
	case 3
	`p_ccf2of3`
	case 4
	`1-p_ccf2of3*3`

Timed Activity:	CheckerFailure
Distribution Parameters	**Rate** `fr_asilB`
Activation Predicate	(none)
Reactivation Predicate	(none)

Timed Activity:	DoerFailure
Distribution Parameters	**Rate** `fr_asilB`
Activation Predicate	(none)
Reactivation Predicate	(none)

Timed Activity:	DoerMRM
	Rate

Distribution Parameters	r_doerMRM
Activation Predicate	(none)
Reactivation Predicate	(none)

Timed Activity:	FallbackFailure
Distribution Parameters	**Rate** fr_asilB
Activation Predicate	(none)
Reactivation Predicate	(none)

Timed Activity:	FallbackMRM
Distribution Parameters	**Rate** r_fallbackMRM
Activation Predicate	(none)
Reactivation Predicate	(none)

Timed Activity:	SelectorsFailure
Distribution Parameters	**Rate** fr_asilD * Selectors->Mark()
Activation Predicate	(none)
Reactivation Predicate	(none)

Instantaneous Activity:	CheckerFailureType
Case Distributions	**case 1** p_doerwrongvalidation **case 2** p_checkersilent **case 3** 1-p_doerwrongvalidation-p_checkersilent

Instantaneous Activity:	DoerFailureType
Case Distributions	**case 1** 1-p_doererratic **case 2** p_doererratic

Instantaneous Activity:	FallbackFailureType
Case Distributions	**case 1** 1-p_fallbackerratic **case 2** p_fallbackerratic

Instantaneous Activity:	prebufferedMRM
Case Distributions	**case 1** 1-p_MRM **case 2** p_MRM

Instantaneous Activities Without Cases:
CatastrophicFailure

Input Gate:	CheckCatastrophicFailure
Predicate	SafeState->Mark()+UnsafeState->Mark()==0 && (DoerErratic->Mark()+DoerWrongValidation->Mark()==2 || (FallbackErratic->Mark()+FallbackWrongValidation->Mark()==2 && Doer->Mark()==0))
Function	;

Input Gate:	CheckDoerMRM
Predicate	SafeState->Mark()+UnsafeState->Mark()==0 && Doer->Mark()==1 && ((Fallback->Mark()==0 && Checker->Mark()==1) || Fallback->Mark()+FallbackWrongValidation->Mark()==2)
Function	;

Input Gate:	CheckFallbackMRM
Predicate	SafeState->Mark()+UnsafeState->Mark()==0 && Fallback->Mark()==1 && ((Doer->Mark()==0 && Checker->Mark()==1) || Doer->Mark()+DoerWrongValidation->Mark()==2)
Function	;

Input Gate:	CheckNonCatastrophicFailure
Predicate	SafeState->Mark()+UnsafeState->Mark()==0 && (Selectors->Mark()==0 || CheckerSilent->Mark()==1 || (Doer->Mark()+Fallback->Mark()==0 && Checker->Mark()==1) || (FallbackWrongValidation->Mark()+Fallback->Mark()==2 && Doer->Mark()==0))
Function	;

Output Gate:	CCFDoerChecker

Function	`if (Doer->Mark()+Checker->Mark()==2)`
	`{`
	`  Doer->Mark()=0;`
	`  Checker->Mark()=0;`
	`  DoerFailed->Mark()=1;`
	`  CheckerFailed->Mark()=1;`
	`}`

Output Gate:	CCFDoerFallback

Function	`if (Doer->Mark()+Fallback->Mark()==2)`
	`{`
	`  Doer->Mark()=0;`
	`  Fallback->Mark()=0;`
	`  DoerFailed->Mark()=1;`
	`  FallbackFailed->Mark()=1;`
	`}`

Output Gate:	CCFDoerFallbackChecker

Function	`if (Doer->Mark()+Checker->Mark()+Fallback->Mark()==3)`
	`{`
	`  Fallback->Mark()=0;`
	`  Doer->Mark()=0;`
	`  Checker->Mark()=0;`
	`  FallbackFailed->Mark()=1;`
	`  DoerFailed->Mark()=1;`
	`  CheckerFailed->Mark()=1;`
	`}`

Output Gate:	CCFFallbackChecker

Function	`if (Fallback->Mark()+Checker->Mark()==2)`
	`{`
	`  Fallback->Mark()=0;`
	`  Checker->Mark()=0;`
	`  FallbackFailed->Mark()=1;`
	`  CheckerFailed->Mark()=1;`
	`}`

Output Gate:	DoerNonSilent

Function	`if (Doer->Mark()+DoerErratic->Mark()==0)`
	`{`
	`  Checker->Mark()=1;`
	`}`
	`else`
	`{`
	`  DoerWrongValidation->Mark()=1;`
	`}`

Output Gate:	FallbackNonSilent

Function	`if (Fallback->Mark()+FallbackErratic->Mark()==0)`
	`{`
	`  Checker->Mark()=1;`
	`}`
	`else`
	`{`
	`  FallbackWrongValidation->Mark()=1;`
	`}`

Range Study Variable Assignments for Study *CDCFParameter* in Project *CDCF* :

Variable	Type	Range Type	Range	Increment	Increment Type	Function	n
fr_asilB	double	Fixed	1.0E-7	-	-	-	-
fr_asilD	double	Fixed	1.0E-8	-	-	-	-
p_MRM	double	Fixed	0.99	-	-	-	-
p_ccf2of3	double	Fixed	0.3	-	-	-	-
p_checkersilent	double	Fixed	0.3333333333333333	-	-	-	-
p_doererratic	double	Fixed	0.5	-	-	-	-
p_doerwrongvalidation	double	Fixed	0.3333333333333333	-	-	-	-
p_fallbackerratic	double	Fixed	0.5	-	-	-	-
r_ccf	double	Fixed	1.0E-9	-	-	-	-
r_doerMRM	double	Fixed	6.0	-	-	-	-
r_fallbackMRM	double	Fixed	6.0	-	-	-	-

Performance Variable Model: CDCFReward		
Top Level Model Information	Child Model Name	CDCFModel
	Model Type	SAN Model

Performance Variable : p_safestate			
Affecting Models	CDCFModel		
Impulse Functions			
Reward Function	*(Reward is over all Available Models)* `if (CDCFModel->SafeState->Mark()==1) return 1;`		
Simulator Statistics	Type	Instant of Time	
	Options	Estimate Mean	
		Include Lower Bound on Interval Estimate	
		Include Upper Bound on Interval Estimate	
		Estimate out of Range Probabilities	
		Confidence Level is Relative	
	Parameters	Start Time	1000.0,1500.0,2000.0,2500.0,3000.0,3500.0,4000.0,4500.0,5000.0,5500.0,6000.0,6500.0,7000.0,7500.0,8000.0,
	Confidence	Confidence Level	0.95
		Confidence Interval	0.1

Performance Variable : p_unsafestate		
Affecting Models	CDCFModel	
Impulse Functions		
Reward Function	*(Reward is over all Available Models)* `if (CDCFModel->UnsafeState->Mark()==1) return 1;`	
	Type	Instant of Time
		Estimate Mean
		Include Lower Bound on Interval Estimate

Simulator Statistics	Options	Include Upper Bound on Interval Estimate	
		Estimate out of Range Probabilities	
		Confidence Level is Relative	
	Parameters	Start Time	1000.0,1500.0,2000.0,2500.0,3000.0,3500.0,4000.0,4500.0,5000.0,5500.0,6000.0,6500.0,7000.0,7500.0,8000.0,
	Confidence	Confidence Level	0.95
		Confidence Interval	0.1
