

## Schema **iv-2.1.xsd**

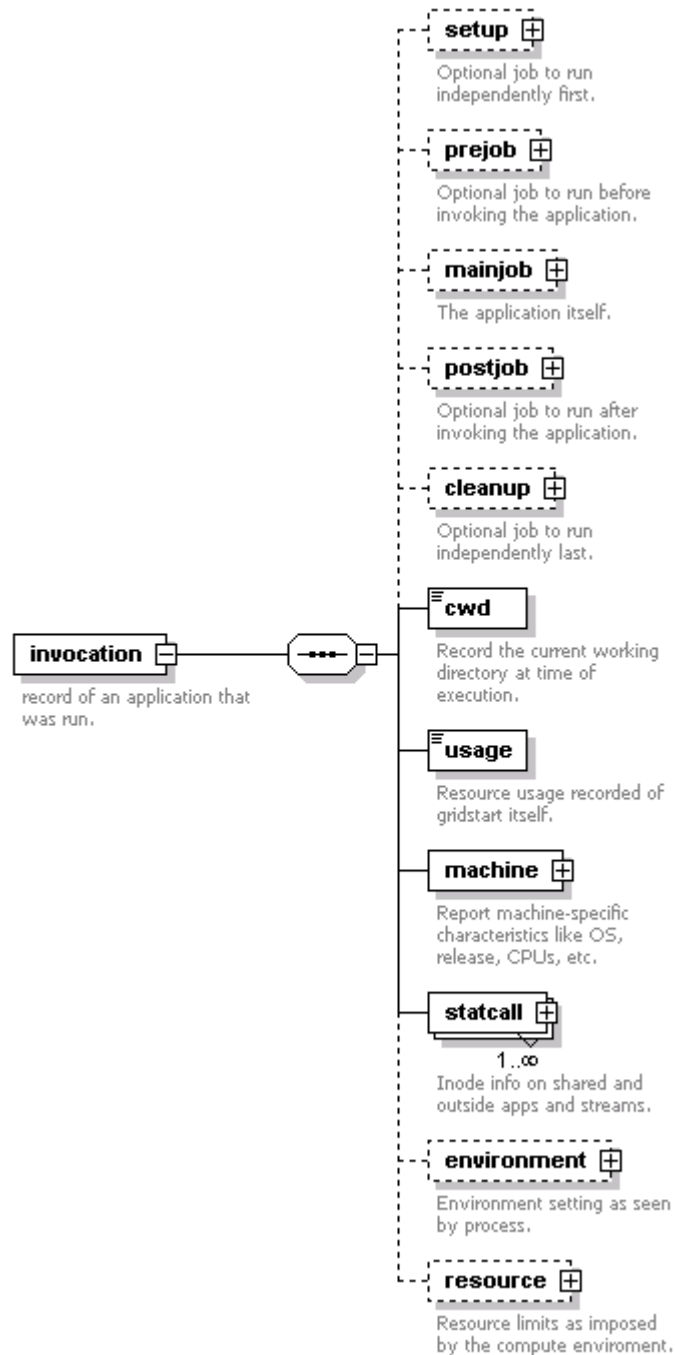
schema location: <C:\Documents and Settings\voeckler\Desktop\schema\iv-2.1\iv-2.1.xsd>

targetNamespace: <http://pegasus.isi.edu/schema/invoke>

Elements	Complex types	Simple types
<a href="#"><u>invocation</u></a>	<a href="#"><u>JobType</u></a>	<a href="#"><u>DottedQuad</u></a>
	<a href="#"><u>MachineBasic</u></a>	<a href="#"><u>PositiveDecimal</u></a>
	<a href="#"><u>MachineDarwin</u></a>	<a href="#"><u>ResourceValue</u></a>
	<a href="#"><u>MachineLinux</u></a>	
	<a href="#"><u>MachineSunos</u></a>	
	<a href="#"><u>RUsageType</u></a>	
	<a href="#"><u>StatCallType</u></a>	

## element invocation

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

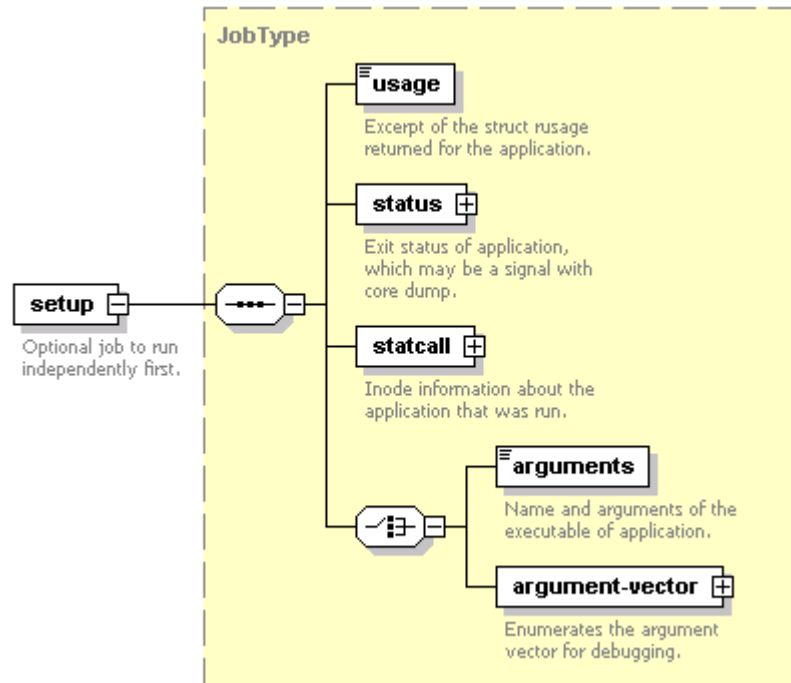
children [setup](#) [prejob](#) [mainjob](#) [postjob](#) [cleanup](#) [cwd](#) [usage](#) [machine](#) [statcall](#) [environment](#) [resource](#)

attributes	Name	Type	Use	Default	Fixed
	version	xs:NMTOKEN	required		
	start	xs:dateTime	required		

duration	PositiveDecimal	required	
transformation	xs:string	optional	null
derivation	xs:string	optional	null
resource	xs:string	optional	
interface	xs:NMTOKEN	optional	
hostaddr	DottedQuad	optional	0.0.0.0
hostname	xs:string	optional	
ram	xs:nonNegativeInteger	optional	
pid	xs:decimal	optional	
uid	xs:integer	optional	
user	xs:string	optional	
gid	xs:integer	optional	
group	xs:string	optional	
wf-label	xs:string	optional	
wf-stamp	xs:dateTime	optional	
umask	xs:token	optional	

## element invocation/setup

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

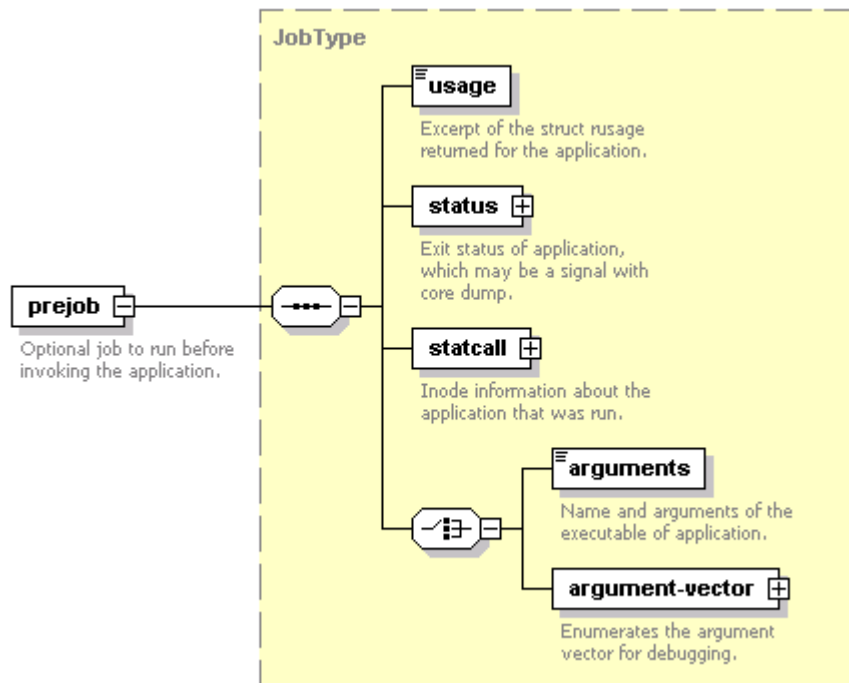
type [JobType](#)

children [usage](#) [status](#) [statcall](#) [arguments](#) [argument-vector](#)

attributes	Name	Type	Use	Default	Fixed
	start	xs:dateTime	required		
	duration	PositiveDecimal	required		
	pid	xs:decimal	optional		

## element invocation/prejob

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

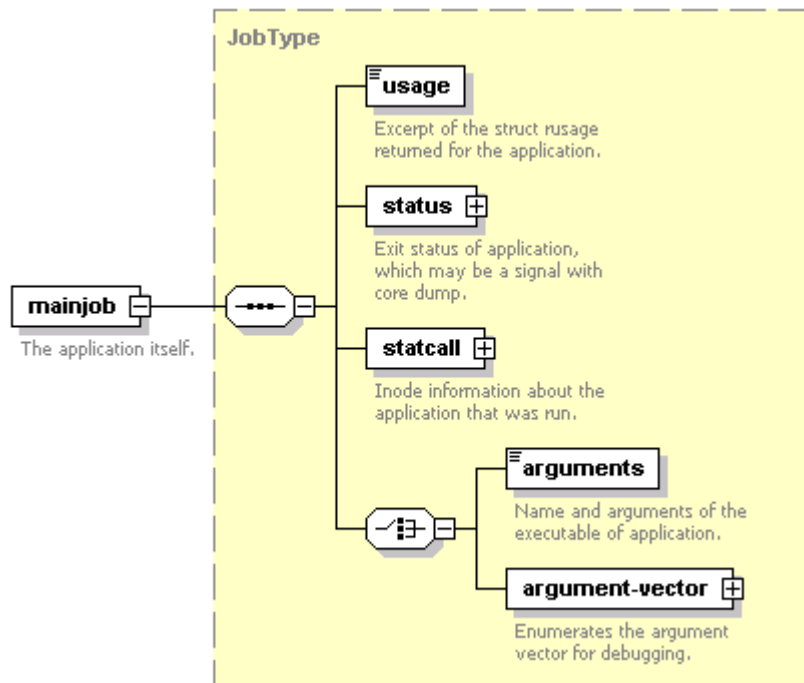
type [JobType](#)

children [usage](#) [status](#) [statcall](#) [arguments](#) [argument-vector](#)

attributes	Name	Type	Use	Default	Fixed
	start	xs:dateTime	required		
	duration	PositiveDecimal	required		
	pid	xs:decimal	optional		

## element invocation/mainjob

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

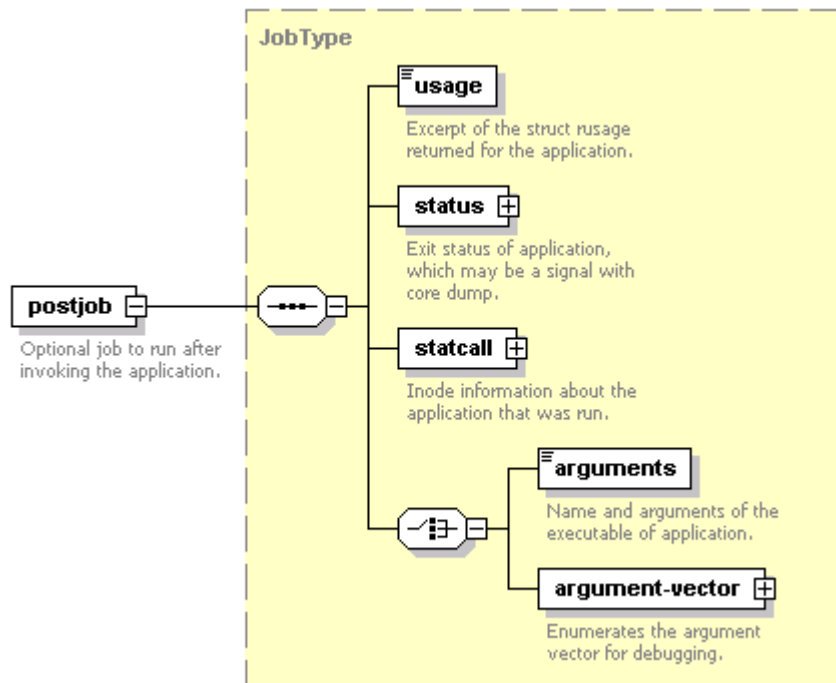
type [JobType](#)

children [usage](#) [status](#) [statcall](#) [arguments](#) [argument-vector](#)

attributes	Name	Type	Use	Default	Fixed
	start	xs:dateTime	required		
	duration	PositiveDecimal	required		
	pid	xs:decimal	optional		

## element invocation/postjob

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

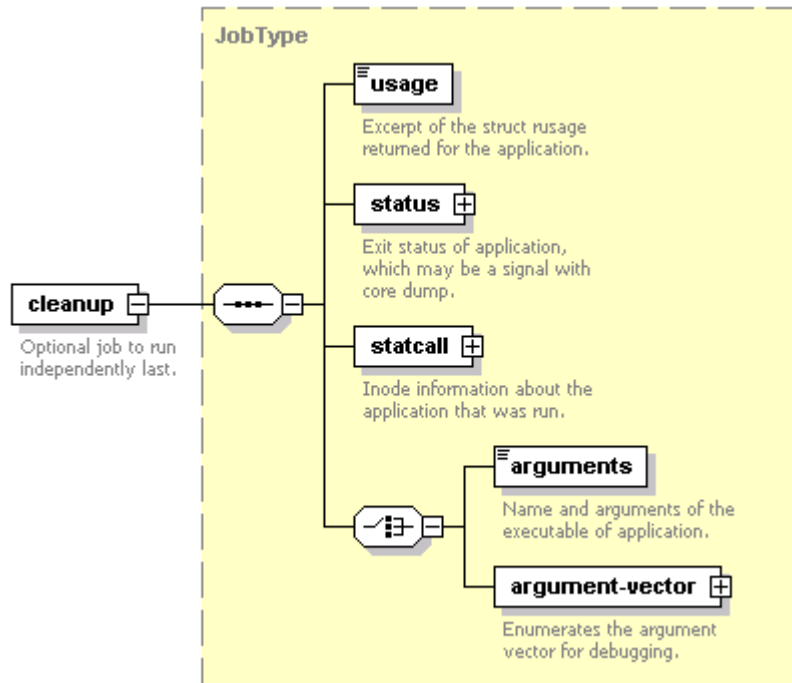
type [JobType](#)

children [usage](#) [status](#) [statcall](#) [arguments](#) [argument-vector](#)

attributes	Name	Type	Use	Default	Fixed
	start	xs:dateTime	required		
	duration	PositiveDecimal	required		
	pid	xs:decimal	optional		

## element invocation/cleanup

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

type [JobType](#)

children [usage](#) [status](#) [statcall](#) [arguments](#) [argument-vector](#)

attributes	Name	Type	Use	Default	Fixed
	start	xs:dateTime	required		
	duration	PositiveDecimal	required		
	pid	xs:decimal	optional		

## element invocation/cwd

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

type restriction of **xs:string**



facets      maxLength    4096  
                 whiteSpace    preserve

element invocation/usage



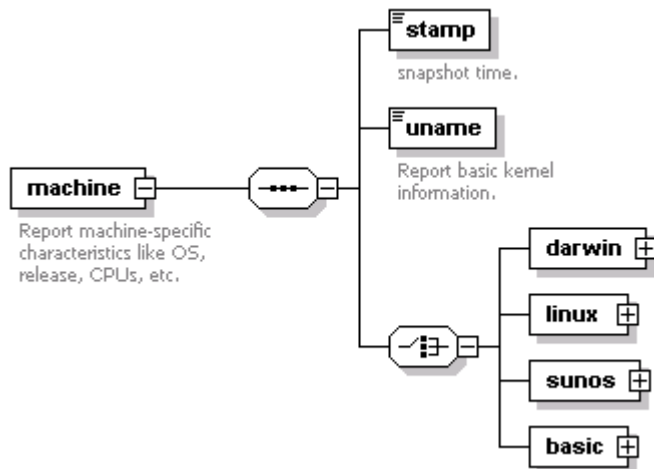
namespace    http://pegasus.isi.edu/schema/invocation

type    [RUsageType](#)

attributes	Name	Type	Use	Default	Fixed
	utime	xs:decimal	required		
	stime	xs:decimal	required		
	minflt	xs:unsignedLong	required		
	majflt	xs:unsignedLong	required		
	nswap	xs:unsignedLong	required		
	nsignals	xs:unsignedLong	required		
	nvcs	xs:unsignedLong	optional		
	nivcs	xs:unsignedLong	optional		
	maxrss	xs:unsignedLong	optional		
	ixrss	xs:unsignedLong	optional		
	idrss	xs:unsignedLong	optional		
	isrss	xs:unsignedLong	optional		
	inblock	xs:unsignedLong	optional		
	outblock	xs:unsignedLong	optional		
	msgsnd	xs:unsignedLong	optional		
	msgrcv	xs:unsignedLong	optional		

## element invocation/machine

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

children [stamp](#) [uname](#) [darwin](#) [linux](#) [sunos](#) [basic](#)

attributes	Name	Type	Use	Default	Fixed
	page-size	xs:nonNegativeInteger	required		

## element invocation/machine/stamp

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

type **xs:dateTime**

## element invocation/machine/uname

diagram

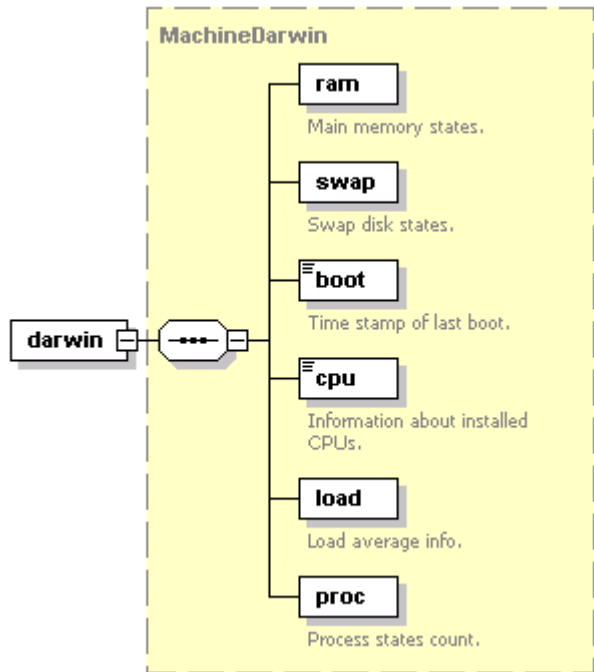


namespace <http://pegasus.isi.edu/schema/invocation>

type	extension of <b>xs:token</b>				
attributes	Name	Type	Use	Default	Fixed
	archmode	xs:NMTOKEN	optional		
	system	xs:NMTOKEN	required		
	nodename	xs:NMTOKEN	required		
	release	xs:NMTOKEN	required		
	machine	xs:NMTOKEN	required		
	domainname	xs:NMTOKEN	optional		

element **invocation/machine/darwin**

diagram



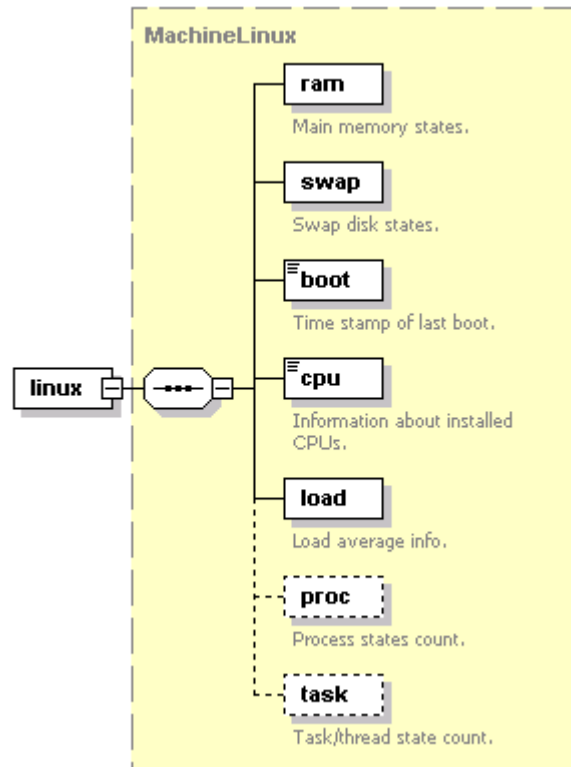
namespace <http://pegasus.isi.edu/schema/invocation>

type [MachineDarwin](#)

children [ram](#) [swap](#) [boot](#) [cpu](#) [load](#) [proc](#)

element **invocation/machine/linux**

diagram



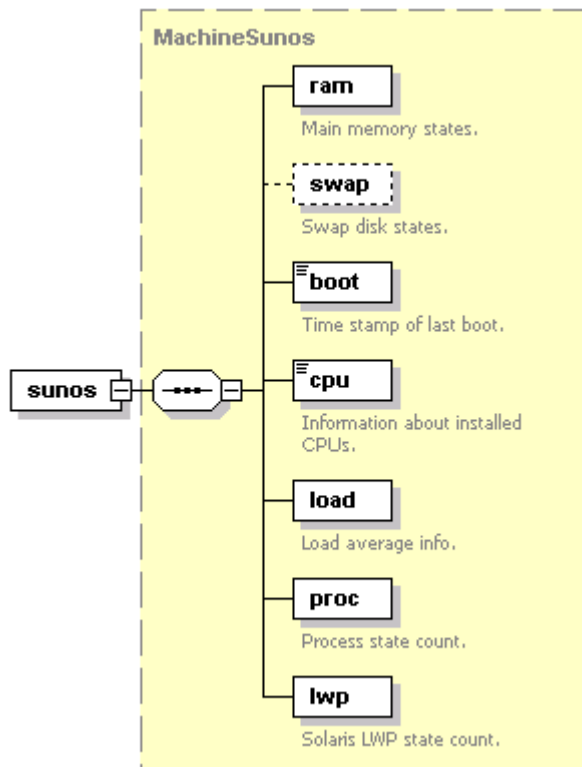
namespace <http://pegasus.isi.edu/schema/invocation>

type [MachineLinux](#)

children [ram](#) [swap](#) [boot](#) [cpu](#) [load](#) [proc](#) [task](#)

## element **invocation/machine/sunos**

diagram



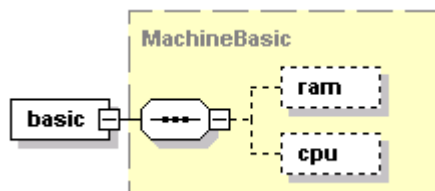
namespace <http://pegasus.isi.edu/schema/invocation>

type [MachineSunos](#)

children [ram](#) [swap](#) [boot](#) [cpu](#) [load](#) [proc](#) [lwp](#)

## element **invocation/machine/basic**

diagram



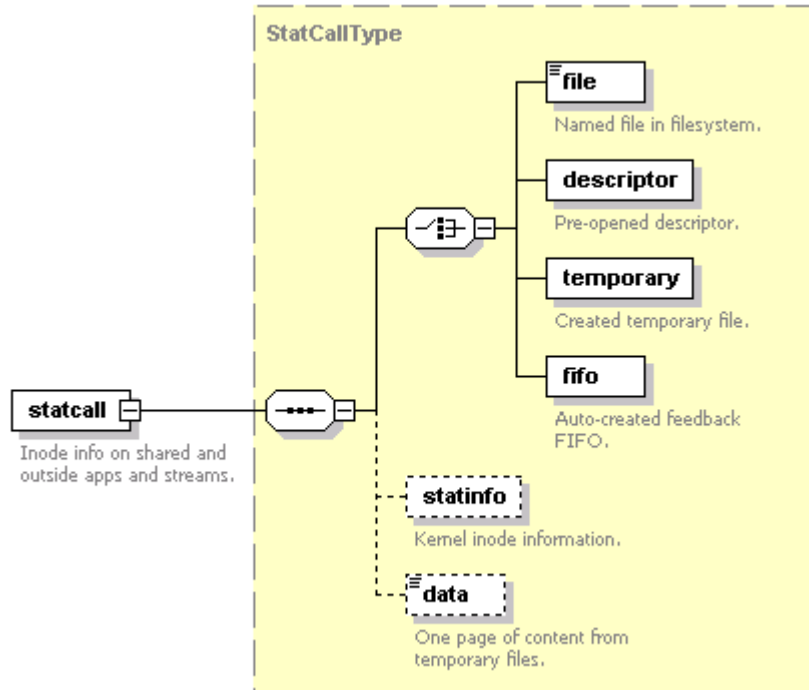
namespace <http://pegasus.isi.edu/schema/invocation>

type [MachineBasic](#)

children [ram](#) [cpu](#)

## element invocation/statcall

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

type extension of [StatCallType](#)

children [file](#) [descriptor](#) [temporary](#) [fifo](#) [statinfo](#) [data](#)

attributes	Name	Type	Use	Default	Fixed
	error	xs:int	required		
	id	xs:NMTOKEN	required		
	lfn	xs:NMTOKEN	optional		

## element invocation/environment

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

children [env](#)

## element `invocation/environment/env`

diagram



namespace `http://pegasus.isi.edu/schema/invocation`

type extension of `xs:string`

attributes	Name	Type	Use	Default	Fixed
	key	xs:string	required		

## element `invocation/resource`

diagram

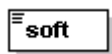


namespace `http://pegasus.isi.edu/schema/invocation`

children [soft hard](#)

## element `invocation/resource/soft`

diagram



namespace `http://pegasus.isi.edu/schema/invocation`

type extension of [ResourceValue](#)

facets pattern (unlimited|d+)

attributes	Name	Type	Use	Default	Fixed
	id	xs:NMTOKEN	required		

## element invocation/resource/hard

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

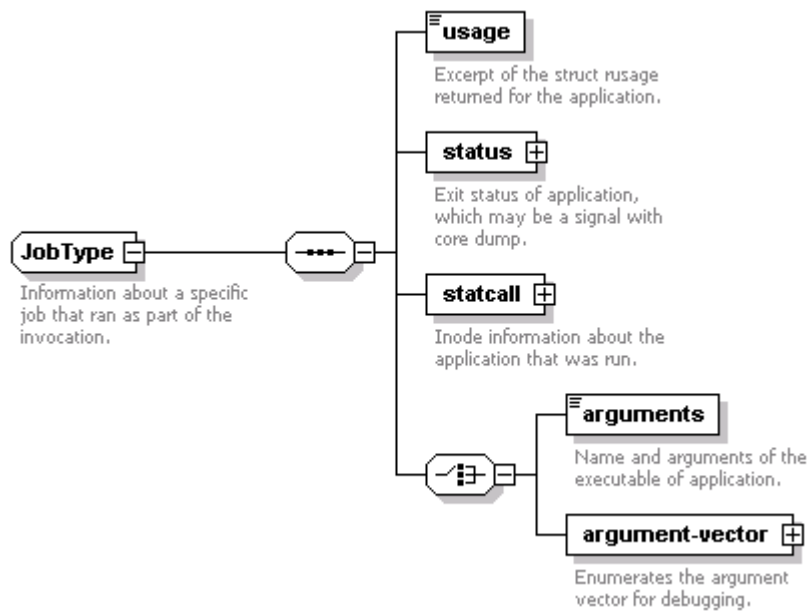
type extension of [ResourceValue](#)

facets pattern (unlimited|d+)

attributes	Name	Type	Use	Default	Fixed
	id	xs:NMTOKEN	required		

## complexType JobType

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

children [usage](#) [status](#) [statcall](#) [arguments](#) [argument-vector](#)

used by elements [invocation/cleanup](#) [invocation/mainjob](#) [invocation/postjob](#) [invocation/prejob](#) [invocation/setup](#)

attributes	Name	Type	Use	Default	Fixed
	start	xs:dateTime	required		
	duration	PositiveDecimal	required		



pid

xs:decimal

optional

element **JobType/usage**



namespace

http://pegasus.isi.edu/schema/invoke

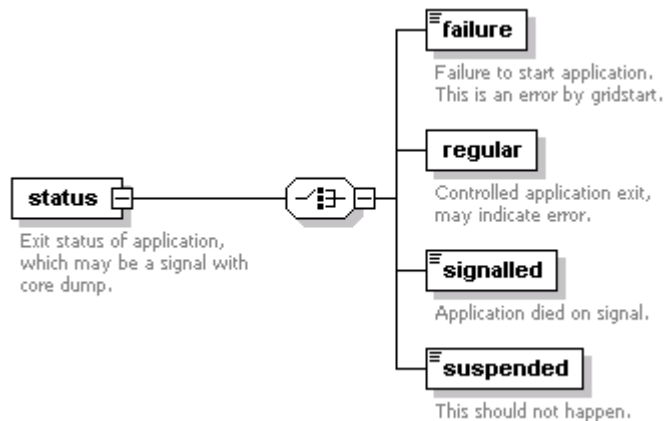
type

[RUsageType](#)

attributes	Name	Type	Use	Default	Fixed
	utime	xs:decimal	required		
	stime	xs:decimal	required		
	minflt	xs:unsignedLong	required		
	majflt	xs:unsignedLong	required		
	nswap	xs:unsignedLong	required		
	nsignals	xs:unsignedLong	required		
	nvcs	xs:unsignedLong	optional		
	nivcs	xs:unsignedLong	optional		
	maxrss	xs:unsignedLong	optional		
	ixrss	xs:unsignedLong	optional		
	idrss	xs:unsignedLong	optional		
	isrss	xs:unsignedLong	optional		
	inblock	xs:unsignedLong	optional		
	outblock	xs:unsignedLong	optional		
	msgsnd	xs:unsignedLong	optional		
	msgrcv	xs:unsignedLong	optional		

## element **JobType/status**

diagram



namespace <http://pegasus.isi.edu/schema/invoke>

children [failure](#) [regular](#) [signalled](#) [suspended](#)

attributes	Name	Type	Use	Default	Fixed
	raw	xs:int	required		

## element **JobType/status/failure**

diagram



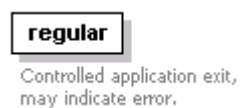
namespace <http://pegasus.isi.edu/schema/invoke>

type extension of **xs:string**

attributes	Name	Type	Use	Default	Fixed
	error	xs:short	required		

## element **JobType/status/regular**

diagram



namespace	http://pegasus.isi.edu/schema/invoke				
attributes	Name	Type	Use	Default	Fixed
	exitcode	xs:unsignedByte	required		

element JobType/status/signalled



namespace	http://pegasus.isi.edu/schema/invoke				
type	extension of xs:string				
attributes	Name	Type	Use	Default	Fixed
	signal	xs:byte	required		
	corefile	xs:boolean	optional		

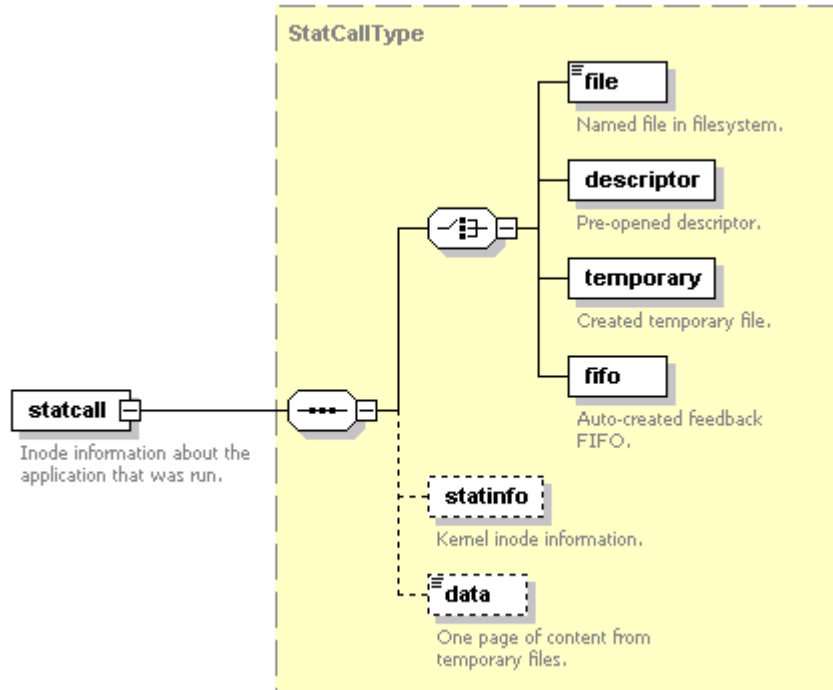
element JobType/status/suspended



namespace	http://pegasus.isi.edu/schema/invoke				
type	extension of xs:string				
attributes	Name	Type	Use	Default	Fixed
	signal	xs:byte	required		

## element **JobType/statcall**

diagram



namespace <http://pegasus.isi.edu/schema/invoke>

type [StatCallType](#)

children [file](#) [descriptor](#) [temporary](#) [fifo](#) [statinfo](#) [data](#)

attributes	Name	Type	Use	Default	Fixed
	error	xs:int	required		

## element **JobType/arguments**

diagram

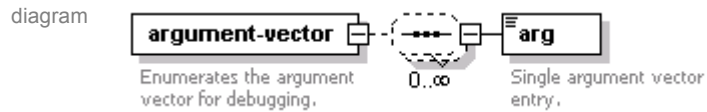


namespace <http://pegasus.isi.edu/schema/invoke>

type extension of **xs:string**

attributes	Name	Type	Use	Default	Fixed
	executable	xs:string	optional		

## element **JobType/argument-vector**



namespace <http://pegasus.isi.edu/schema/invocation>

children [arg](#)

attributes	Name	Type	Use	Default	Fixed
	executable	xs:string	optional		

## element **JobType/argument-vector/arg**

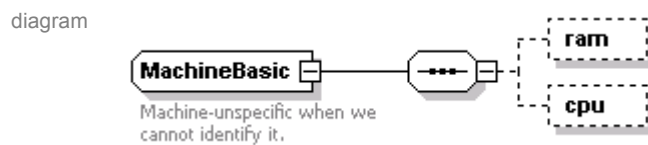


namespace <http://pegasus.isi.edu/schema/invocation>

type extension of **xs:string**

attributes	Name	Type	Use	Default	Fixed
	nr	xs:nonNegativeInteger	required		

## complexType **MachineBasic**



namespace <http://pegasus.isi.edu/schema/invocation>

children [ram](#) [cpu](#)

used by element [invocation/machine/basic](#)

element **MachineBasic/ram**



namespace	http://pegasus.isi.edu/schema/invoke				
attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger	optional		
	avail	xs:nonNegativeInteger	optional		

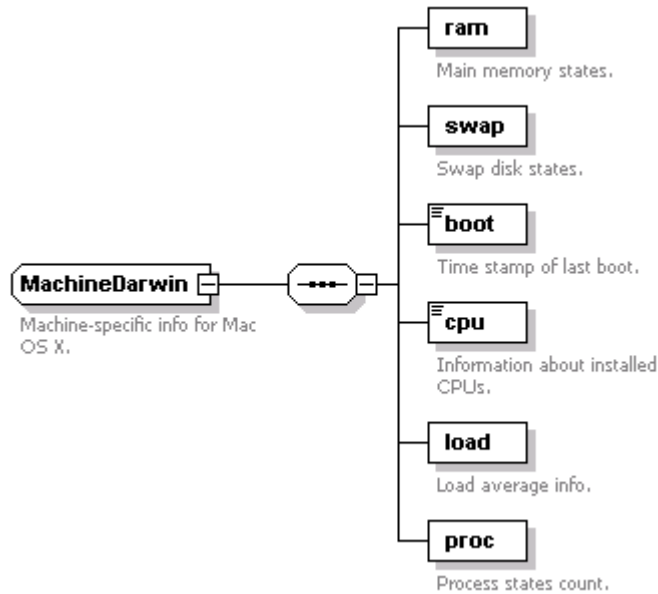
element **MachineBasic/cpu**



namespace	http://pegasus.isi.edu/schema/invoke				
attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger	optional		
	online	xs:nonNegativeInteger	optional		

## complexType MachineDarwin

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

children [ram](#) [swap](#) [boot](#) [cpu](#) [load](#) [proc](#)

used by element [invocation/machine/darwin](#)

## element MachineDarwin/ram

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger			
	avail	xs:nonNegativeInteger			
	active	xs:nonNegativeInteger			
	inactive	xs:nonNegativeInteger			

wired                      xs:nonNegativeInteger

element **MachineDarwin/swap**



namespace	http://pegasus.isi.edu/schema/invoke					
attributes	Name	Type	Use	Default	Fixed	
	total	xs:nonNegativeInteger				
	avail	xs:nonNegativeInteger	optional			
	used	xs:nonNegativeInteger	optional			

element **MachineDarwin/boot**



namespace	http://pegasus.isi.edu/schema/invoke
type	extension of xs:date

element **MachineDarwin/cpu**



namespace	http://pegasus.isi.edu/schema/invoke					
type	extension of xs:string					
attributes	Name	Type	Use	Default	Fixed	
	count	xs:nonNegativeInteger				



speed	xs:nonNegativeInteger
vendor	xs:string

element **MachineDarwin/load**



namespace	http://pegasus.isi.edu/schema/invo				
attributes	Name	Type	Use	Default	Fixed
	min1	PositiveDecimal	required		
	min5	PositiveDecimal	required		
	min15	PositiveDecimal	required		

element **MachineDarwin/proc**

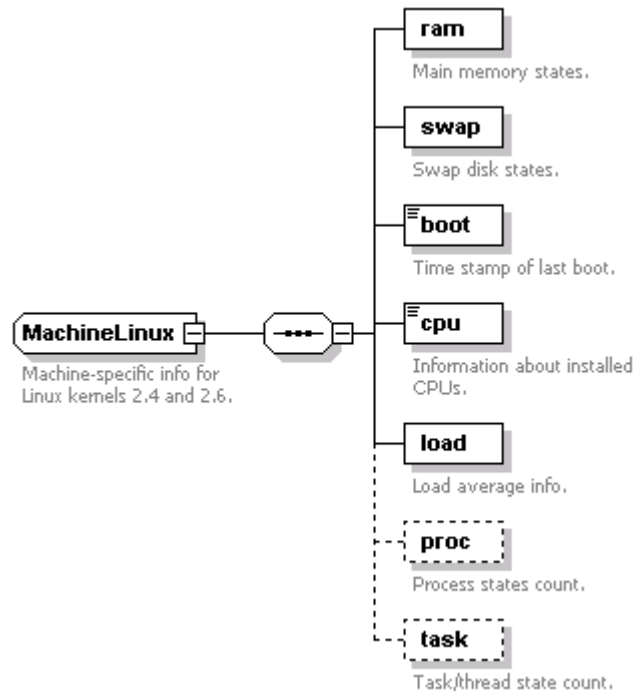


namespace	http://pegasus.isi.edu/schema/invo				
attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger			
	idle	xs:nonNegativeInteger			
	running	xs:nonNegativeInteger			
	sleeping	xs:nonNegativeInteger			
	waiting	xs:nonNegativeInteger			
	stopped	xs:nonNegativeInteger			
	zombie	xs:nonNegativeInteger			

other                      xs:nonNegativeInteger

## complexType **MachineLinux**

diagram



namespace    <http://pegasus.isi.edu/schema/invocation>

children    [ram](#) [swap](#) [boot](#) [cpu](#) [load](#) [proc](#) [task](#)

used by      element    [invocation/machine/linux](#)

## element **MachineLinux/ram**

diagram



namespace    <http://pegasus.isi.edu/schema/invocation>

attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger			
	free	xs:nonNegativeInteger			

shared	xs:nonNegativeInteger
buffer	xs:nonNegativeInteger

element **MachineLinux/swap**



namespace	http://pegasus.isi.edu/schema/invoke				
attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger			
	free	xs:nonNegativeInteger			

element **MachineLinux/boot**



namespace	http://pegasus.isi.edu/schema/invoke				
type	extension of <b>xs:date</b>				
attributes	Name	Type	Use	Default	Fixed
	idle	PositiveDecimal	optional		

element **MachineLinux/cpu**



namespace	http://pegasus.isi.edu/schema/invoke				
type	extension of <b>xs:string</b>				

attributes	Name	Type	Use	Default	Fixed
	count	xs:nonNegativeInteger			
	speed	xs:nonNegativeInteger			
	vendor	xs:string			

element **MachineLinux/load**



namespace	http://pegasus.isi.edu/schema/invoke				
attributes	Name	Type	Use	Default	Fixed
	min1	PositiveDecimal	required		
	min5	PositiveDecimal	required		
	min15	PositiveDecimal	required		

element **MachineLinux/proc**



namespace	http://pegasus.isi.edu/schema/invoke				
attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger	required		
	running	xs:nonNegativeInteger	optional		
	sleeping	xs:nonNegativeInteger			
	waiting	xs:nonNegativeInteger			
	stopped	xs:nonNegativeInteger			
	zombie	xs:nonNegativeInteger			

	r
other	xs:nonNegativeInteger
vmsize	xs:nonNegativeInteger
rss	xs:nonNegativeInteger

element **MachineLinux/task**

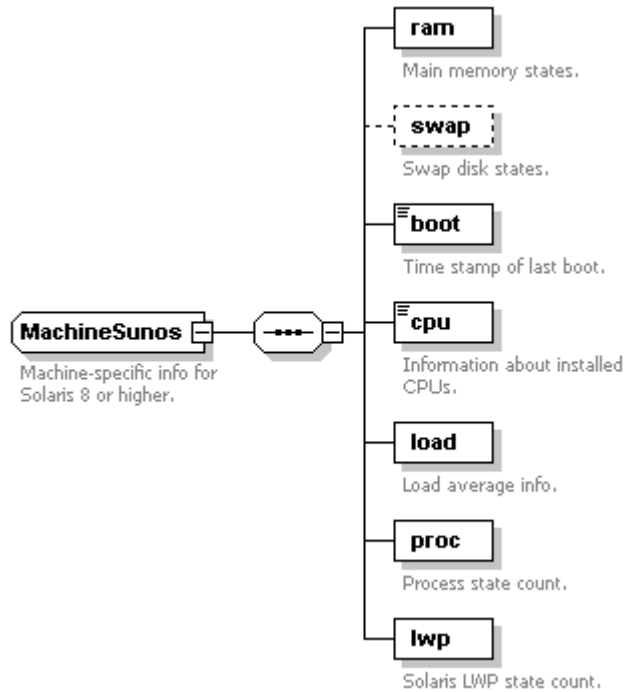
diagram



namespace	http://pegasus.isi.edu/schema/invoke				
attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger	required		
	running	xs:nonNegativeInteger	optional		
	sleeping	xs:nonNegativeInteger			
	waiting	xs:nonNegativeInteger			
	stopped	xs:nonNegativeInteger			
	zombie	xs:nonNegativeInteger			
	other	xs:nonNegativeInteger			
	vmsize	xs:nonNegativeInteger	optional		
	rss	xs:nonNegativeInteger	optional		

## complexType **MachineSunos**

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

children [ram](#) [swap](#) [boot](#) [cpu](#) [load](#) [proc](#) [lwp](#)

used by element [invocation/machine/sunos](#)

## element **MachineSunos/ram**

diagram



namespace <http://pegasus.isi.edu/schema/invocation>

attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger	optional		
	avail	xs:nonNegativeInteger			
	free	xs:nonNegativeInteger			

## element **MachineSunos/swap**

diagram



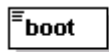
Swap disk states.

namespace <http://pegasus.isi.edu/schema/invoke>

attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger			
	free	xs:nonNegativeInteger			

## element **MachineSunos/boot**

diagram



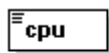
Time stamp of last boot.

namespace <http://pegasus.isi.edu/schema/invoke>

type extension of **xs:dateTime**

## element **MachineSunos/cpu**

diagram



Information about installed CPUs.

namespace <http://pegasus.isi.edu/schema/invoke>

type extension of **xs:string**

attributes	Name	Type	Use	Default	Fixed
	count	xs:nonNegativeInteger			
	speed	xs:nonNegativeInteger			
	online	xs:nonNegativeInteger			

type	xs:string
brand	xs:string

element **MachineSunos/load**



namespace	http://pegasus.isi.edu/schema/invoaction				
attributes	Name	Type	Use	Default	Fixed
	min1	PositiveDecimal	required		
	min5	PositiveDecimal	required		
	min15	PositiveDecimal	required		

element **MachineSunos/proc**



namespace	http://pegasus.isi.edu/schema/invoaction				
attributes	Name	Type	Use	Default	Fixed
	total	xs:nonNegativeInteger			
	found	xs:nonNegativeInteger			
	size	xs:nonNegativeInteger			
	rss	xs:nonNegativeInteger			

element **MachineSunos/lwp**





namespace	http://pegasus.isi.edu/schema/invoaction				
attributes	Name	Type	Use	Default	Fixed
	active	xs:nonNegativeInteger			
	zombie	xs:nonNegativeInteger			

## complexType **RUsageType**

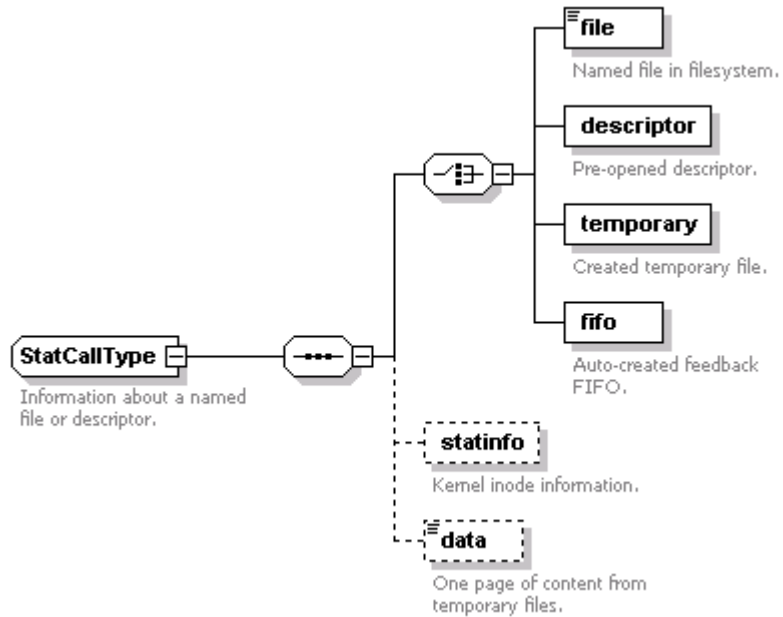
diagram



namespace	http://pegasus.isi.edu/schema/invoaction				
used by	elements	<a href="#">invocation/usage</a> <a href="#">JobType/usage</a>			
attributes	Name	Type	Use	Default	Fixed
	utime	xs:decimal	required		
	stime	xs:decimal	required		
	minflt	xs:unsignedLong	required		
	majflt	xs:unsignedLong	required		
	nswap	xs:unsignedLong	required		
	signals	xs:unsignedLong	required		
	nvcs	xs:unsignedLong	optional		
	nivcs	xs:unsignedLong	optional		
	maxrss	xs:unsignedLong	optional		
	ixrss	xs:unsignedLong	optional		
	idrss	xs:unsignedLong	optional		
	isrss	xs:unsignedLong	optional		
	inblock	xs:unsignedLong	optional		
	outblock	xs:unsignedLong	optional		
	msgsnd	xs:unsignedLong	optional		
	msgrcv	xs:unsignedLong	optional		

## complexType StatCallType

diagram



namespace <http://pegasus.isi.edu/schema/invoke>

children [file](#) [descriptor](#) [temporary](#) [fifo](#) [statinfo](#) [data](#)

used by elements [invocation/statcall](#) [JobType/statcall](#)

attributes	Name	Type	Use	Default	Fixed
	error	xs:int	required		

## element StatCallType/file

diagram



namespace <http://pegasus.isi.edu/schema/invoke>

type extension of **xs:hexBinary**

attributes	Name	Type	Use	Default	Fixed
	name	xs:string	required		

## element **StatCallType/descriptor**

diagram

**descriptor**

Pre-opened descriptor.

namespace <http://pegasus.isi.edu/schema/invoke>

attributes	Name	Type	Use	Default	Fixed
	number	xs:nonNegativeInteger	required		

## element **StatCallType/temporary**

diagram

**temporary**

Created temporary file.

namespace <http://pegasus.isi.edu/schema/invoke>

attributes	Name	Type	Use	Default	Fixed
	name	xs:string	required		
	descriptor	xs:integer	required		

## element **StatCallType/fifo**

diagram

**fifo**

Auto-created feedback  
FIFO.

namespace <http://pegasus.isi.edu/schema/invoke>

attributes	Name	Type	Use	Default	Fixed
	name	xs:string	required		
	descriptor	xs:integer	required		
	count	xs:nonNegativeInteger	optional	0	
	rsz	xs:nonNegativeInteger	optional	0	

wsiz	xs:nonNegativeInteger	optional	0
------	-----------------------	----------	---

element **StatCallType/statinfo**



namespace	http://pegasus.isi.edu/schema/invoke				
attributes	Name	Type	Use	Default	Fixed
	size	xs:integer	required		
	mode	xs:token	optional		
	inode	xs:integer	optional		
	nlink	xs:nonNegativeInteger	optional		
	blocks	xs:nonNegativeInteger	optional		
	blksize	xs:nonNegativeInteger	optional		
	atime	xs:dateTime	optional		
	mtime	xs:dateTime	optional		
	ctime	xs:dateTime	optional		
	uid	xs:integer	optional		
	user	xs:string	optional		
	gid	xs:integer	optional		
	group	xs:string	optional		

element **StatCallType/data**



namespace	http://pegasus.isi.edu/schema/invoke
type	extension of <b>xs:string</b>

attributes	Name	Type	Use	Default	Fixed
	truncated	xs:boolean	optional		

## simpleType **DottedQuad**

namespace	http://pegasus.isi.edu/schema/invoke				
type	restriction of <b>xs:string</b>				
used by	attribute	<a href="#">invocation/@hostaddr</a>			
facets	minLength	7			
	maxLength	15			
	whiteSpace	collapse			
	pattern	(\d{1,3}\.){3}\d{1,3}			

## simpleType **PositiveDecimal**

namespace	http://pegasus.isi.edu/schema/invoke				
type	restriction of <b>xs:decimal</b>				
used by	attributes	<a href="#">invocation/@duration</a> <a href="#">JobType/@duration</a> <a href="#">MachineLinux/boot/@idle</a> <a href="#">MachineDarwin/load/@min1</a> <a href="#">MachineLinux/load/@min1</a> <a href="#">MachineSunos/load/@min1</a> <a href="#">MachineDarwin/load/@min15</a> <a href="#">MachineLinux/load/@min15</a> <a href="#">MachineSunos/load/@min15</a> <a href="#">MachineDarwin/load/@min5</a> <a href="#">MachineLinux/load/@min5</a> <a href="#">MachineSunos/load/@min5</a>			
facets	minInclusive	0			

## simpleType **ResourceValue**

namespace	http://pegasus.isi.edu/schema/invoke				
type	restriction of <b>xs:string</b>				
used by	elements	<a href="#">invocation/resource/hard</a> <a href="#">invocation/resource/soft</a>			
facets	pattern	(unlimited d+)			

