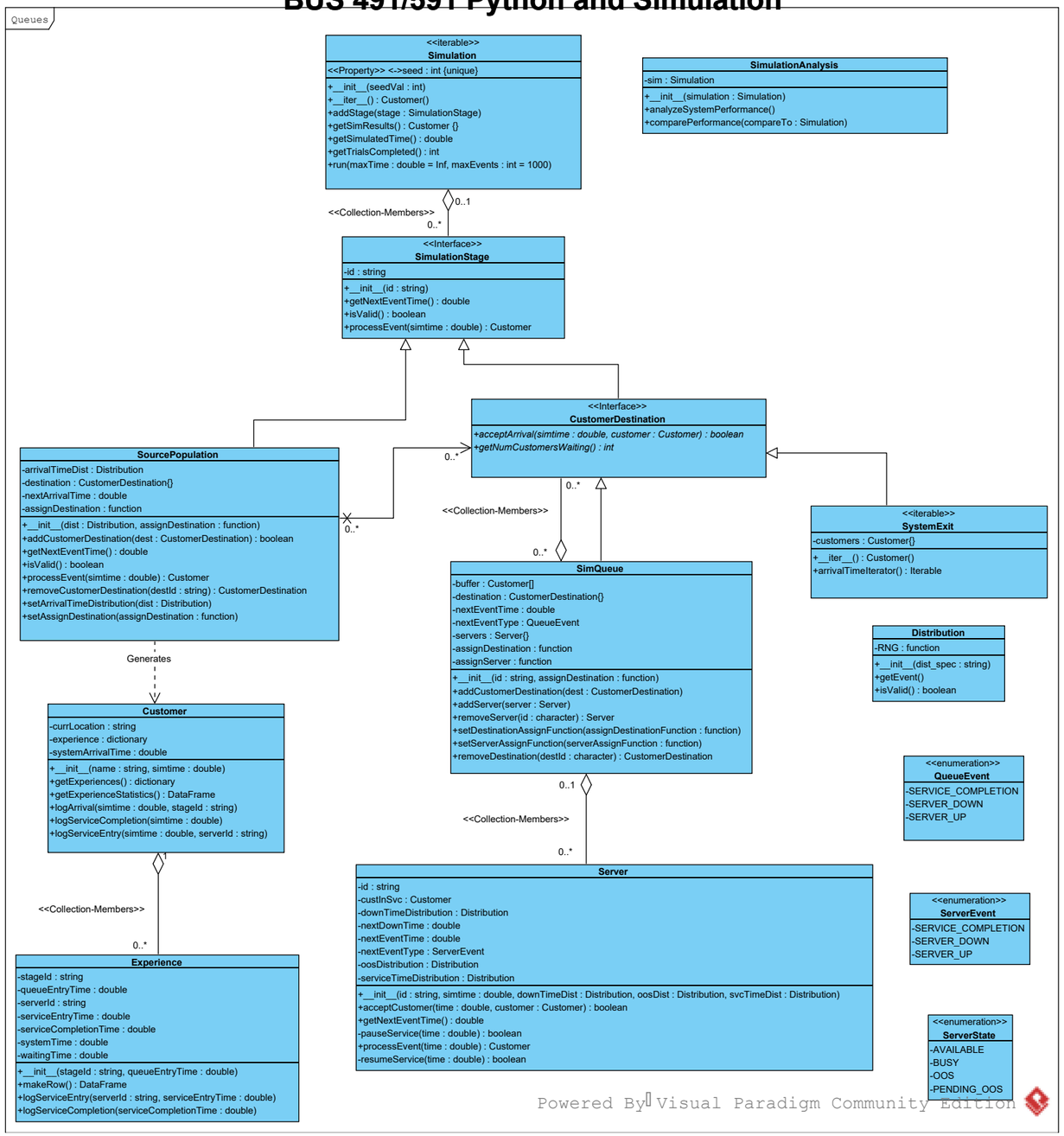
BUS 491/591 Python and Simulation



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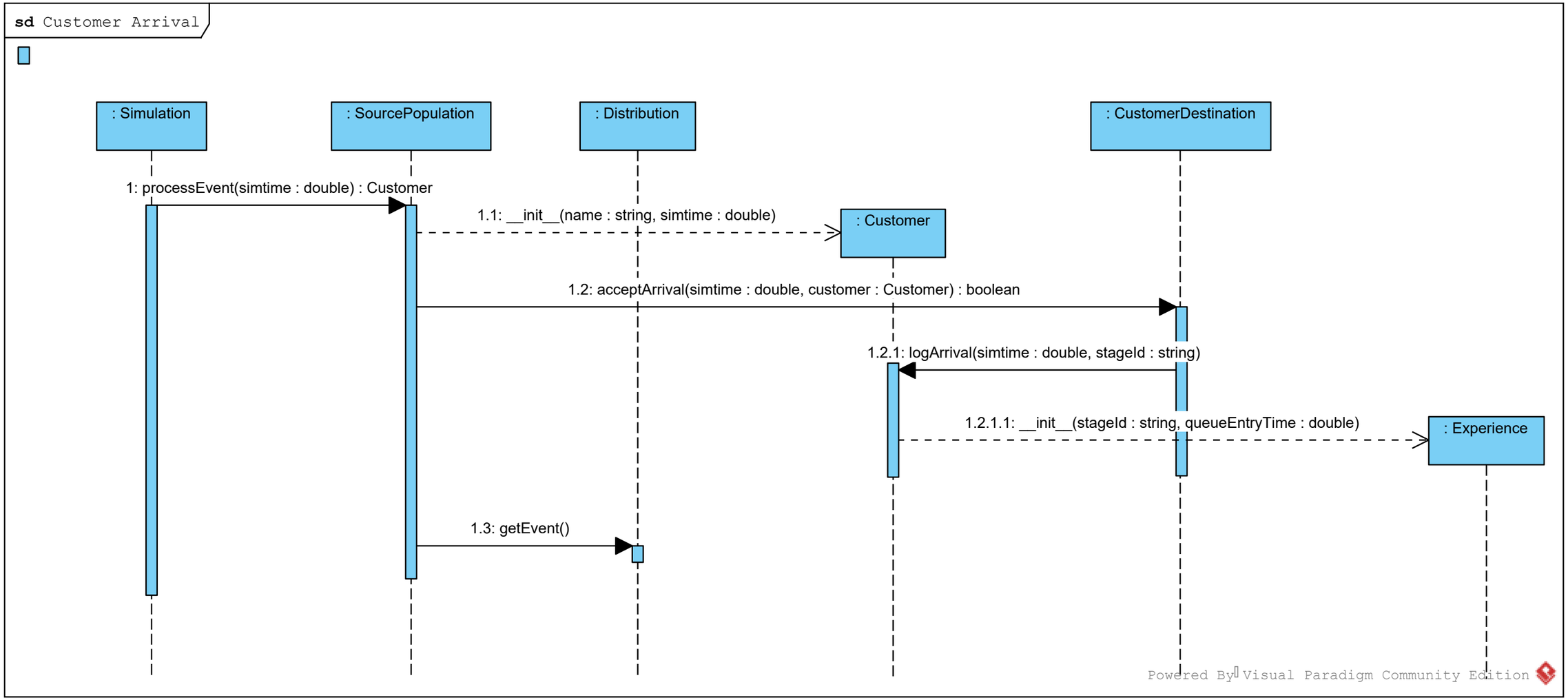

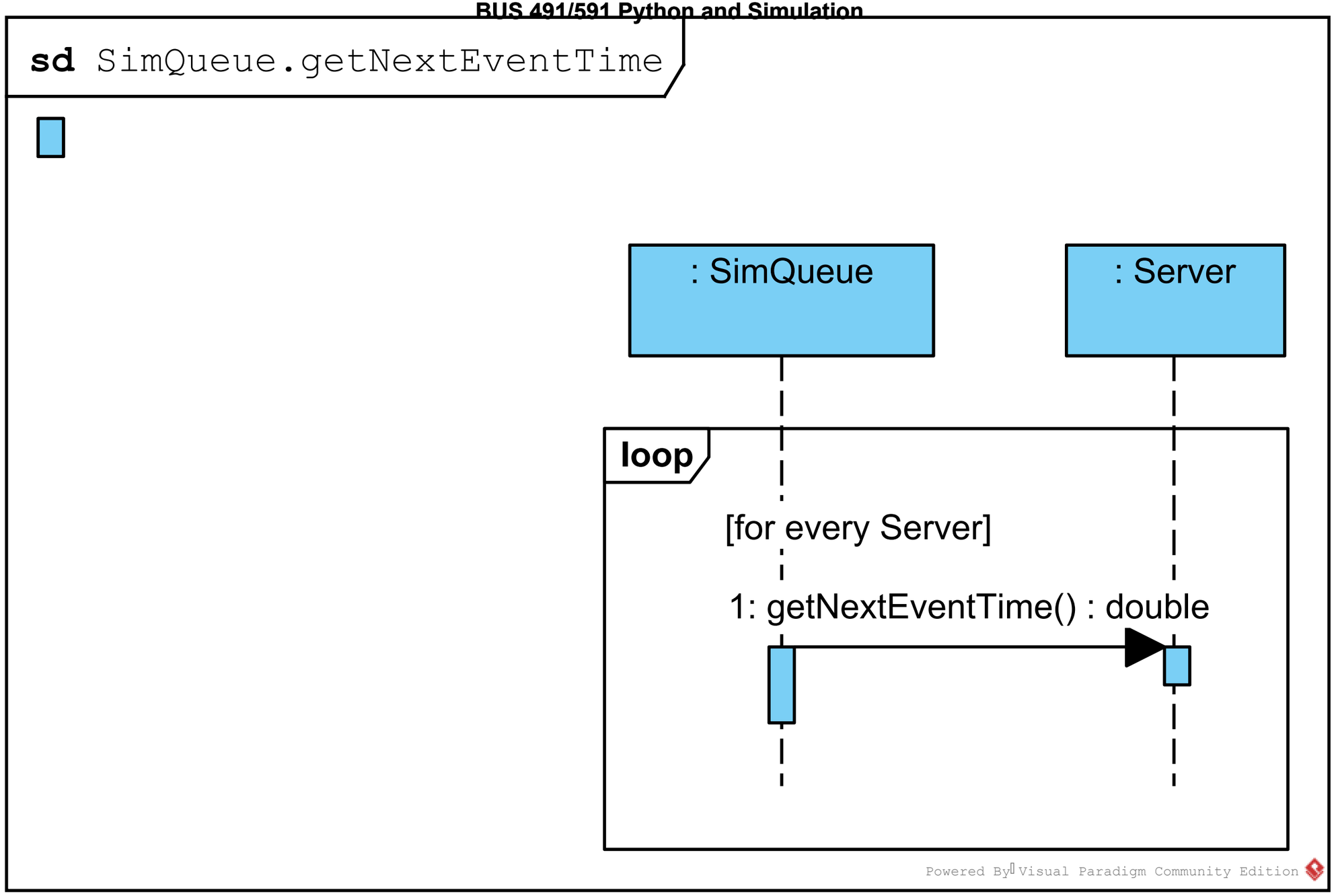
sd SimQueue.getNextEventTime
: SimQueue
: Server
loop
[for every Server]
1: getNextEventTime() : double
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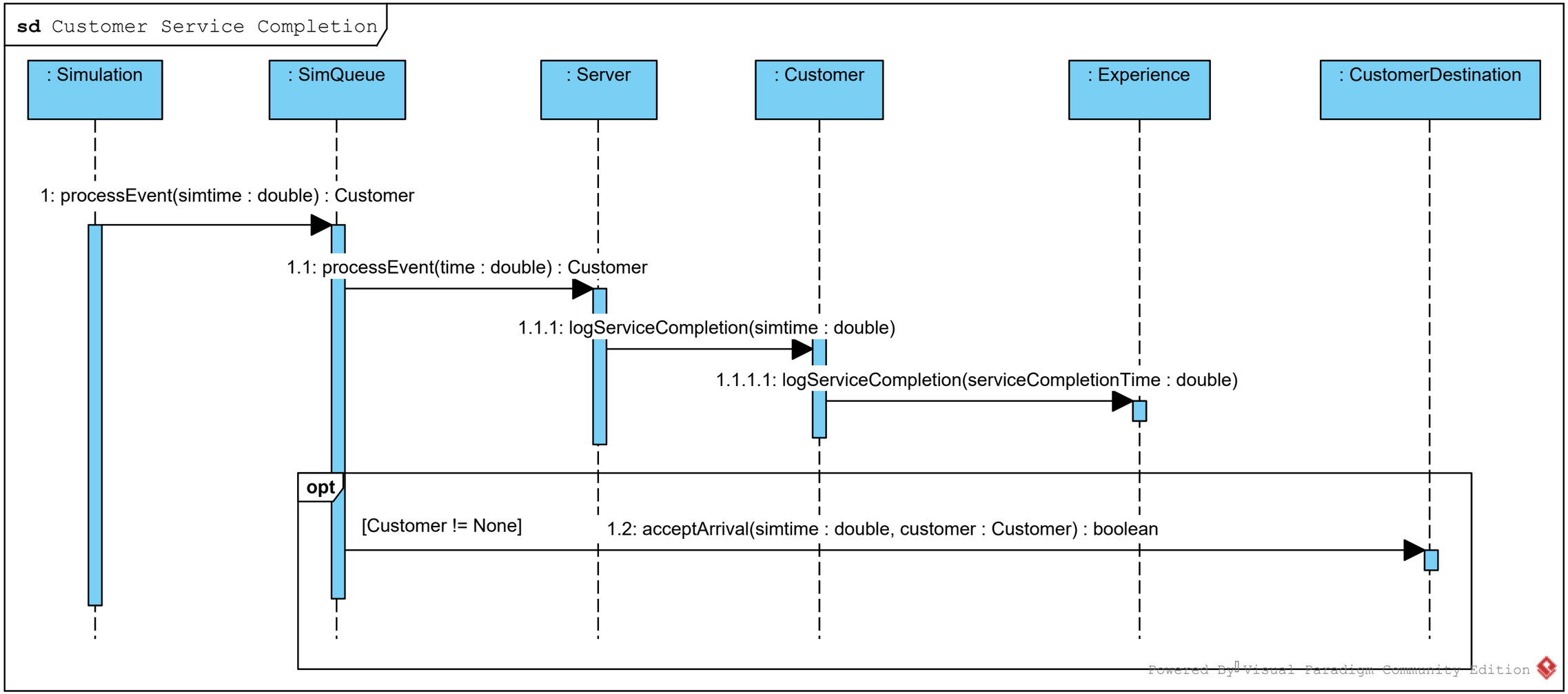
sd Customer Service Completion
: Simulation
: SimQueue
: Server
: Customer
: Experience
: CustomerDestination
1: processEvent(simtime : double) : Customer
1.1: processEvent(time : double) : Customer
1.1.1: logServiceCompletion(simtime : double)
1.1.1.1: logServiceCompletion(serviceCompletionTime : double)
opt
[Customer != None]
1.2: acceptArrival(simtime : double, customer : Customer) : boolean
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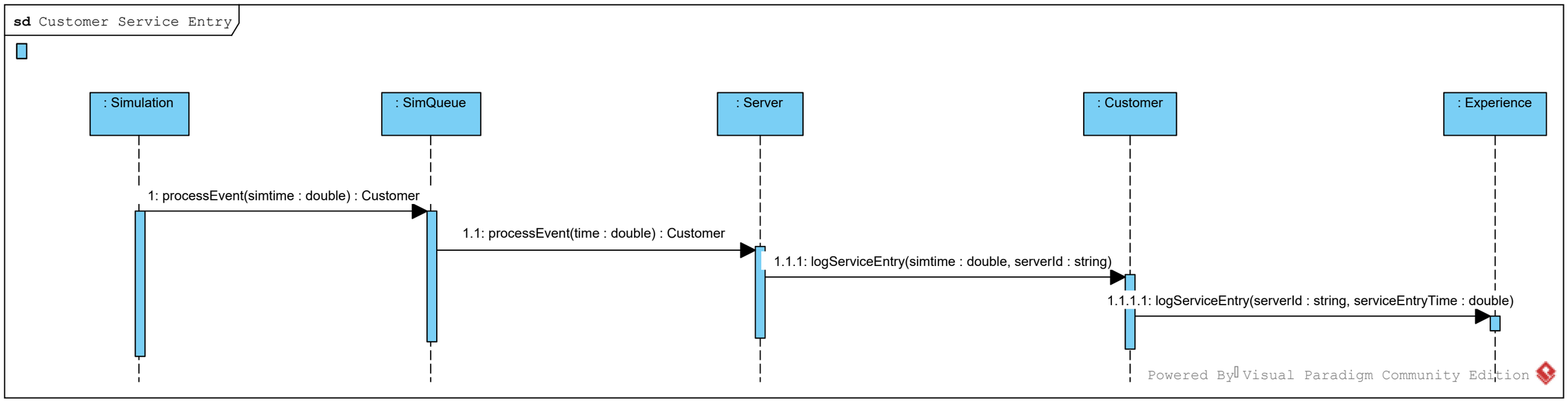

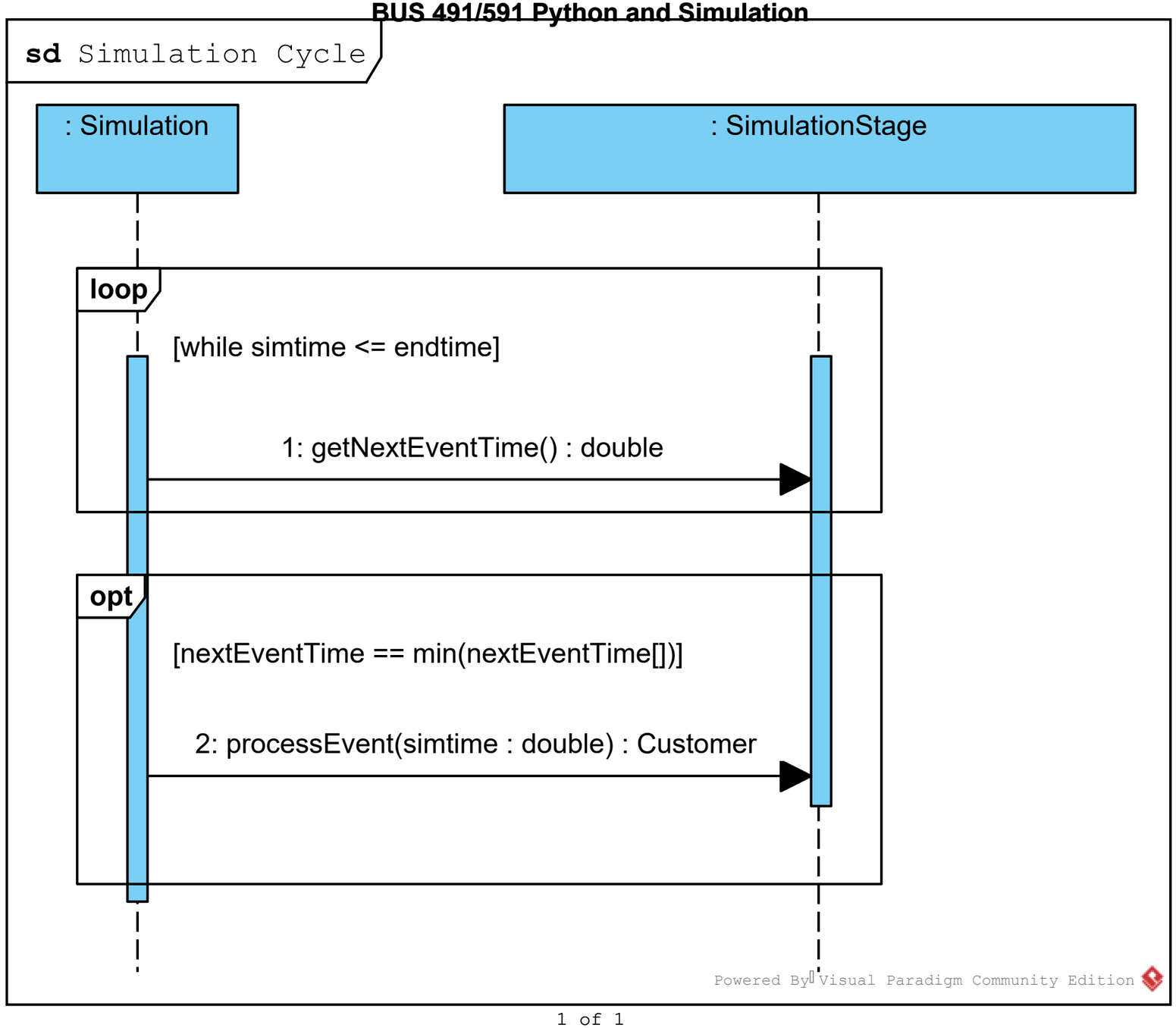
sd Simulation Cycle
: Simulation
: SimulationStage
loop
[while simtime <= endtime]
1: getNextEventTime() : double
opt
[nextEventTime == min(nextEventTime[])]
2: processEvent(simtime : double) : Customer
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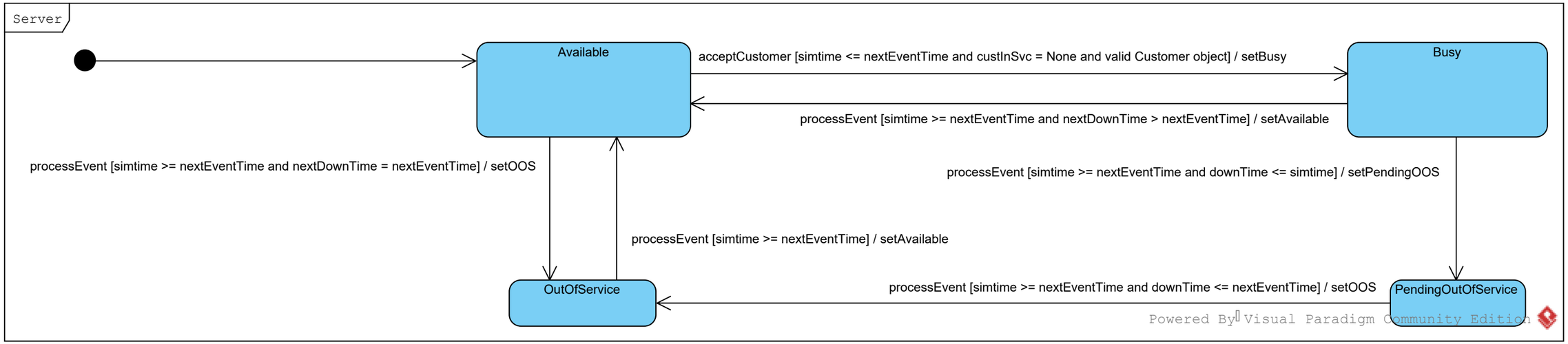

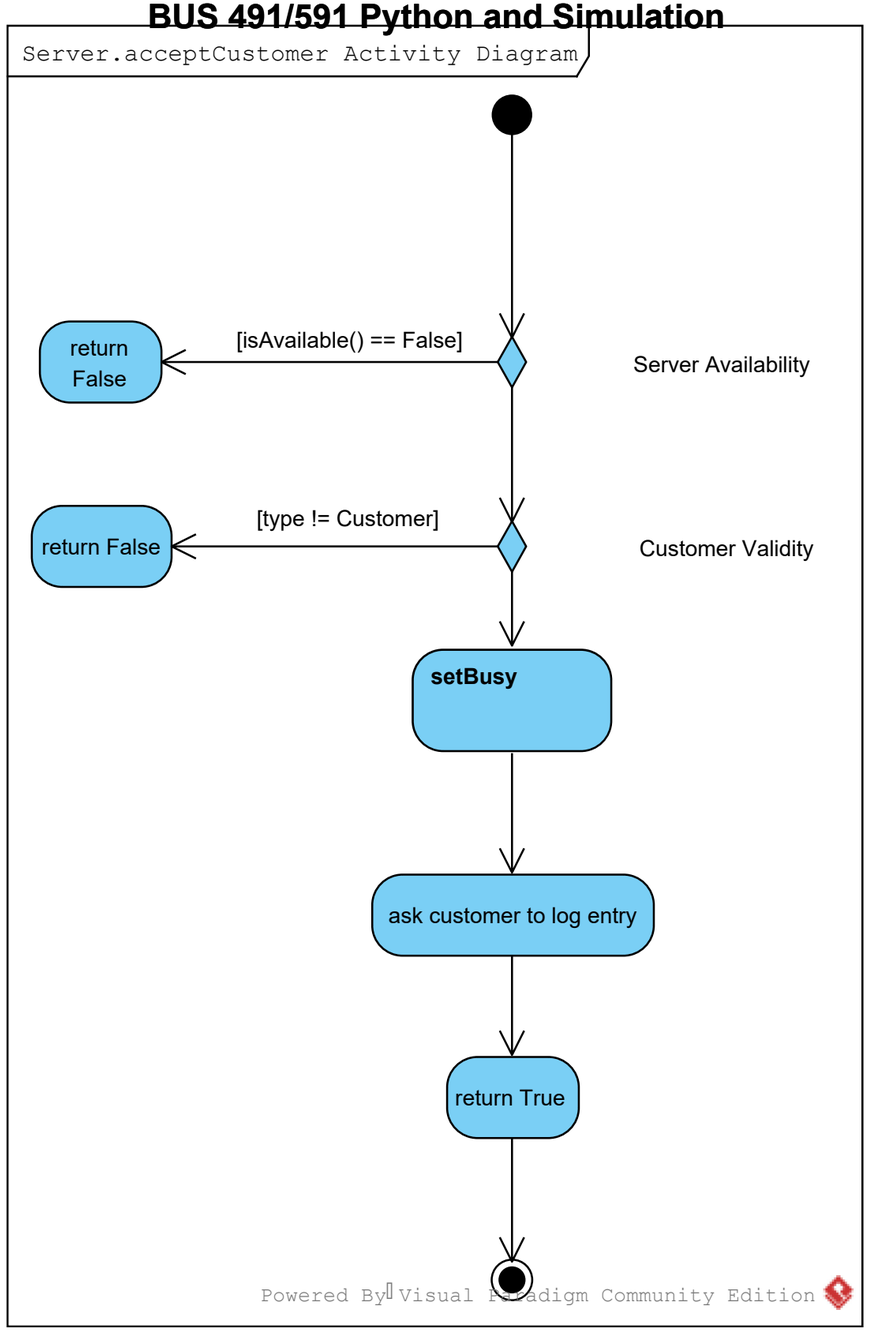
Server.acceptCustomer Activity Diagram
return False
[isAvailable() == False]
Server Availability
return False
[type != Customer]
Customer Validity
setBusy
ask customer to log entry
return True
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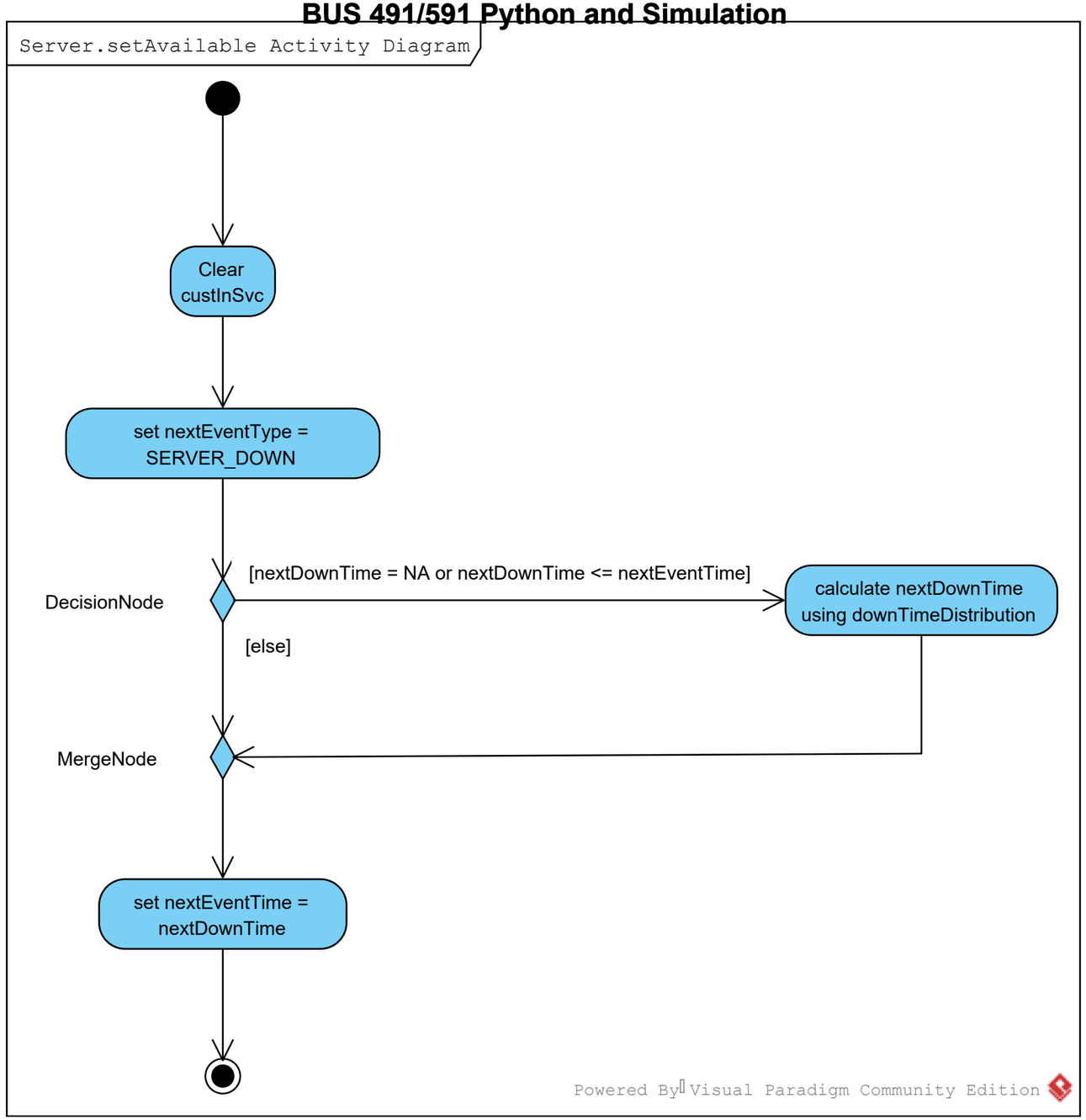
Server.setAvailable Activity Diagram
Clear
custInSvc
set nextEventType =
SERVER_DOWN
DecisionNode
[nextDownTime = NA or nextDownTime <= nextEventTime]
calculate nextDownTime
using downTimeDistribution
[else]
MergeNode
set nextEventTime =
nextDownTime
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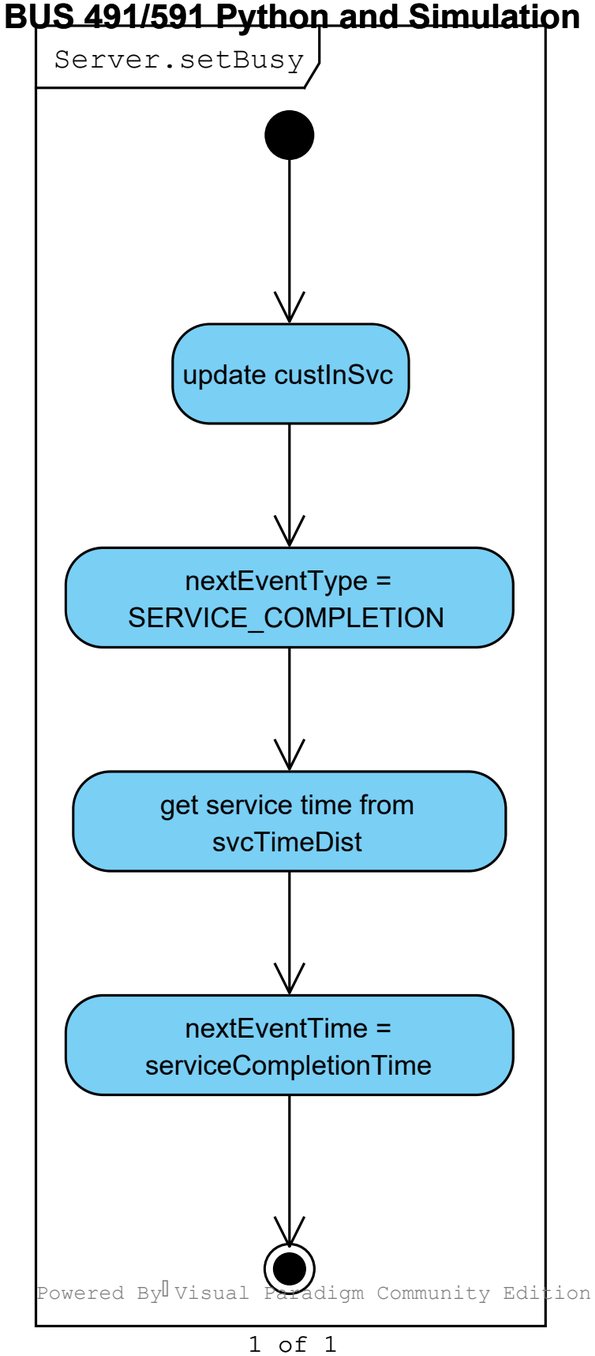
Server.setBusy
update custInSvc
nextEventType =
SERVICE_COMPLETION
get service time from
svcTimeDist
nextEventTime =
serviceCompletionTime
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