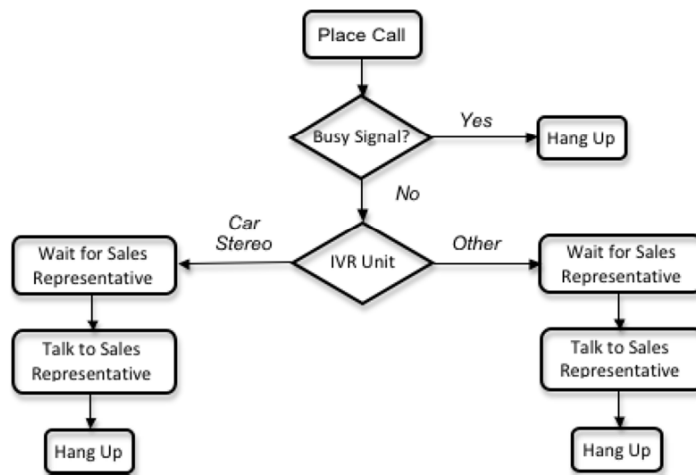


Example: Call Center



White and Ingalls, Introduction to Simulation, 2009

Arriving calls first connect to a telephone switch. If the number of calls currently on hold is greater than ten, the caller receives a busy signal and immediately hangs up. Other-wise, the call is delivered to an automated interactive voice response (IVR) unit. The caller is asked to, "Dial one for car-stereo products; dial two for all other products" and the call is routed accordingly. The call then waits in the appropriate queue (listening to classic rock) until the first sales representative servicing the identified product type becomes available. Finally the call is processed and the caller hangs up. For midday peak periods during the upcoming Christmas season, the call-center manager would like to know the minimum number of each type of sales representative needed to insure that (i) fewer than 2% of call waiting times for either product are greater than 1 min and (ii) fewer than 3% of all incoming calls are refused at the switch.