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#!/usr/bin/python3

import easysnmp
from easysnmp import *
import sys, time, math

Information_Of_agent = sys.argv[1]
inform_agent = Information_Of_agent.split(':')
ipaddr_agent = inform_agent[0]
port_agent = inform_agent[1]
community_agent = inform_agent[2]
SampleFreq = float(sys.argv[2])
Counts_sample = int(sys.argv[3])
SamplingTime = 1/SampleFreq
ObjIDs = []
ObjectIdentifier1=[]
ObjectIdentifier2=[]
timer=""
#print(SampleFreq)
for kan in range(4,len(sys.argv)):
      ObjIDs.append(sys.argv[kan])
ObjIDs.insert(0,'1.3.6.1.2.1.1.3.0')
#OIDs=[int(float(l)) for l in ObjIDs]
#print(ObjIDs)

#def SNMPagentTime():
#     #AgentTime=[]
#
      session=Session(hostname=ipaddr_agent,remote_port=port_agent,communi
ty=community_agent,version=2,timeout=1)
#     SnmpTime=session.get(ObjIDs)
#     return int(SnmpTime[0].value)
session=Session(hostname=ipaddr_agent,remote_port=port_agent,community=com
munity_agent,version=2,timeout=1,retries=3)

def vadv():
      global ObjectIdentifier1, new_time, timer2
      output = session.get(ObjIDs)
      TimerSys= int(output[0].value)/100
      ObjectIdentifier2 = []
      #print("timer2 {}".format(TimerSys))
#     for t in range(0,len(output)):
#           print("output value{}".format(output[t].value))

      # if int(TimerSys) > 2**32 or int(TimerSys) <= 0:
      #     print(" The system just restarted. ")

      for th in range(1,len(output)):
                  if output[th].value!='NOSUCHOBJECT' and
output[th].value!='NOSUCHINSTANCE':

                              #print(output[th].snmp_type)
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                              if output[th].snmp_type=='COUNTER64' or
output[th].snmp_type=='GAUGE' or output[th].snmp_type=='COUNTER32' or
output[th].snmp_type=='COUNTER':

      ObjectIdentifier2.append(int(output[th].value))
                                    #print("loid2
{}".format(ObjectIdentifier2))
                              else:

      ObjectIdentifier2.append(output[th].value)
                              #print("loid1 {}".format(ObjectIdentifier1))

                              if count!=0 and len(ObjectIdentifier1)>0:
                                    if TimerSys > new_time:
                                                if
output[th].snmp_type=='COUNTER' or output[th].snmp_type=='COUNTER32'or
output[th].snmp_type=='COUNTER64':
                                                      #print("if la
oid2 {}".format(ObjectIdentifier2[th-1]))
                                                      #print("if la
oid1 {}".format(ObjectIdentifier1[th-1]))
                                                      OIDdiff =
int(ObjectIdentifier2[th-1]) - int(ObjectIdentifier1[th-1])
                                                      #print("oiddiff
{}".format(OIDdiff))

      #print(output[th].snmp_type)

      diff_time=(TimerSys - new_time)
                                                      #print("time diff
{}".format(diff_time))
                                                      rate =
int(OIDdiff / diff_time)
                                                      #print("rate
{}".format(rate))
                                                      if rate < 0:
                                                            if TimerSys
> new_time:

      if output[th].snmp_type == 'COUNTER32':

            #print(output[th].snmp_type)

            OIDdiff = OIDdiff + (2**32)

            try:

                        if timer==str(timer2):

                              print(round(OIDdiff/(diff_time)),end="|")

                        else:
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                              print(timer2,"|",round(OIDdiff/(diff_time)),
end="|");timer=str(timer2)


            except:

                        print(timer2,"|", round(OIDdiff/(diff_time)), end=
"|");timer=str(timer2)


      elif output[th].snmp_type == 'COUNTER64':

            #print(output[th].snmp_type)

            #diff_time = round(diff_time)

            #print("time_diff {}".format(diff_time))

            OIDdiff=OIDdiff+2**64

            #print(OIDdiff)

            try:

                        if timer==str(timer2):

                              #print(OIDdiff/(diff_time))

                              print(round(OIDdiff/(diff_time)), end ="|")

                        else:

                              print(timer2, "|",
round(OIDdiff/(diff_time)), end="|");timer=str(timer2)



            except:

                        #print(OIDdiff/diff_time)

                        print(timer2,"|",round(OIDdiff/(diff_time)),end=
"|");timer=str(timer2)

                                                                  else:

      print(" This seems like the system was restarted ")

      break

                                                        else:
                                                              try:
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      if timer==str(timer2):
            print( round(rate) ,end= "|")
            #print("1")
      else:
            print(timer2,"|", round(rate), end="|")
            timer=str(timer2)
            #print("2")
                                                                  except:
      print(timer2 ,"|", round(rate), end="|")
      timer=str(timer2)
      #print("3")
                                                elif
output[th].snmp_type=='GAUGE':
                                                                  OIDdiff =
int(ObjectIdentifier2[th-1]) - int(ObjectIdentifier1[th-1])
                                                                  #if OIDdiff>0:
OIDdiff="+"+str(OIDdiff)
                                                                  try:
                                                                        if
timer==str(timer2):
      print(ObjectIdentifier2[len(ObjectIdentifier2)-1],"(",+OIDdiff,")",
end="|")
      #print("4")
                                                                  else:
      print(timer2,"|",ObjectIdentifier2[len(ObjectIdentifier2)-
1],"(",+OIDdiff,")", end="|")
      timer=str(timer2)
      #print("5")
                                                                  except:
      print(timer2,"|",ObjectIdentifier2[len(ObjectIdentifier2)-
1],"(",+OIDdiff,")", end="|")
      timer=str(timer2)
                                                                  #print("6")
                                                elif
output[th].snmp_type=='OCTETSTR':
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                                                                  try:
                                                                        if
timer==str(timer2):

      print(ObjectIdentifier2[len(ObjectIdentifier2)-1], end="|")

      #print("7")
                                                                  else:

      print(timer2,"|",ObjectIdentifier2[len(ObjectIdentifier2)-1],
end="|")

      timer=str(timer2)

      #print("8")
                                                                  except:

      print(timer2,"|",ObjectIdentifier2[len(ObjectIdentifier2)-1],
end="|")

      timer=str(timer2)
                                                                        #print("9")
                                    else:
                                                print(" This seems like the
system was restarted ")
                                                break
      ObjectIdentifier1 = ObjectIdentifier2
      new_time = TimerSys
      #print("new time {}".format(new_time))
if Counts_sample==-1:
      count = 0
      ObjectIdentifier1 = []
      while True:
                  timer2 = time.time()
                  vadv()
                  if count!=0:
                              print(end="\n")
                  ResponseTime = time.time()
                  count = count+1
                  if SamplingTime >= ResponseTime - timer2:
                              time.sleep((SamplingTime- ResponseTime +
timer2))
                  else:
                              n=math.ceil((ResponseTime-
timer2)/SamplingTime)
                              print(n,"n",((n*SamplingTime)- ResponseTime +
timer2))
                              time.sleep(((n*SamplingTime)- ResponseTime +
timer2))
else:
      ObjectIdentifier1 = []
      a=Counts_sample
      for count in range(0,Counts_sample+1):
                  timer2 = time.time()
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                    #print("intitial time ",timer2)
                    vadv()
                    if count!=0:
                              print(end="\n")
                    ResponseTime = time.time()
                    #print(" resp time",ResponseTime)
                    #print(-ResponseTime+timer2, "respdiff")
                    #print("sleep",(SamplingTime - ResponseTime + timer2))
                    if SamplingTime >= ResponseTime - timer2:
                              time.sleep((SamplingTime- ResponseTime +
timer2))
                    else:
                              n=math.ceil((ResponseTime-
timer2)/SamplingTime)
                              #print(n,"n",((n*SamplingTime)- ResponseTime
+ timer2))
                              time.sleep(((n*SamplingTime)- ResponseTime +
timer2))
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