

MP1B: MQCMD

Program to display Queue Statistics and Channel Status over time

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Overview

The MQCMD program passes a command to the MQ command server, parses the responses and displays information. The program issues the command periodically, so you can get data over a time period. The data is in Comma Separated Values (CSV), so can be fed into a spread sheet for graphing and other analysis.

JCL to run the program

```
//PAICECMD JOB 1,MSGCLASS=H
//S1 EXEC PGM=MQCMD,REGION=0M,
//*   PARM='MQPG " DIS CHS(TO.MQPU*) ALL   "10 2  '
//*   PARM='MQPA " RESET QSTATS(CP00*)   " 4 999999  '
//   PARM='MQPB " RESET QSTATS(CP0000)   " 5 2  '
//STEPLIB DD DISP=SHR,DSN=library containing the MQMD program
//          DD DISP=SHR,DSN=MQM.V710.SCSQLOAD
//          DD DISP=SHR,DSN=MQM.V710.SCSQANLE
//          DD DISP=SHR,DSN=MQM.V710.SCSQAUTH
//SYSPRINT DD SYSOUT=*,DCB=(LRECL=244)
//SYSERR   DD SYSOUT=*,DCB=(LRECL=244)
//SYSOUT   DD SYSOUT=*,DCB=(LRECL=244)
//OUTPUT   DD SYSOUT=*,DCB=(LRECL=244)
```

Where the parameter are

- Queue manager name
- “MQSC command “
- interval in seconds
- the duration to run for in minutes

The MQSC command is either DIS CHLSTATUS() or RESET QSTATS()

Once the job has been submitted it runs until

- It gets an unexpected error – for example queue not found
- The duration has been exceed
- A stop command has been issued, for example P PAICECMD

Time zones

You can have the time displayed in local time. For example using the JCL below to set the environment variable TZ.

```
//PAICECM2 JOB 1,MSGCLASS=H
/*JOBPARM SYSAFF=(MVCA)
// SET EZ='TZ=CST+6'
// SET ZMD='RESET QSTATS(TEST_APP3) '
// * SYNTAX ISQMGR "COMMAND" <INTERVAL> <DURATION IN MINS>
//S1 EXEC PGM=MQCMD,REGION=0M,
//      PARM='ENVAR("&EZ.")/CDL1 "&ZMD." 1 1 '
//STEPLIB DD DISP=SHR,DSN=SCEN.APPS.LOAD.PDSE
//          DD DISP=SHR,DSN=MQM.V701.SCSQLOAD
//          DD DISP=SHR,DSN=MQM.V701.SCSQANLE
//          DD DISP=SHR,DSN=MQM.V701.SCSQAUTH
//SYSPRINT DD SYSOUT=*,DCB=(LRECL=244)
//SYSERR   DD SYSOUT=*,DCB=(LRECL=244)
//SYSOUT   DD SYSOUT=*,DCB=(LRECL=244)
//OUTPUT   DD SYSOUT=*,DCB=(LRECL=244)
```

Reset QSTATS

The parameter PARM='MQPB " RESET QSTATS(CP0000) "6 10 ' produced the following.

```
14:56:28,CP0000 ,d, 40,t, 5,h, 50,i, 0,o, 0,ir, 0,or, 0
14:56:33,CP0000 ,d, 46,t, 5,h, 475,i, 425,o, 0,ir, 85,or, 0
14:56:39,CP0000 ,d, 52,t, 5,h, 498,i, 23,o, 0,ir, 4,or, 0
14:56:45,CP0000 ,d, 57,t, 5,h,4143,i, 3645,o, 0,ir, 729,or, 0
14:56:51,CP0000 ,d, 63,t, 5,h,4166,i, 23,o, 0,ir, 4,or, 0
14:56:57,CP0000 ,d, 69,t, 5,h,4188,i, 22,o, 0,ir, 4,or, 0
14:57:03,CP0000 ,d, 75,t, 6,h,5050,i, 862,o, 5000,ir, 143,or, 833
```

Where the data columns are TIME(t), HIQDEPTH(h), MSGSIN(i), MSGSOUT(o), INPUT RATE(ir), OUTPUT RATE(or)

Where

14:57:03, is the time of day

CP0000 , is the queue name

d, 75, is the duration from the start of the job

t, 6, is the time interval since the previous reset qstats command.

h,5050, HIQDEPTH(h), the peak queue depth since the statistics were last reset.

i, 862, MSGSIN(i), the number of messages that have been added to the queue by MQPUT and MQPUT1 calls since the statistics were last reset

o, 5000, MSGSOUT(o), the number of messages removed from the queue by destructive (non-browse) MQGET calls since the statistics were last reset

ir, 143, INPUT RATE(ir) is $MSGSIN/TIME$, the message input rate

or, 833 OUTPUT RATE(or) is $MSGSIN/TIME$ is the message output rate

Display channel status

To get all of the attributes with values in them you need MONCCHL(LOW) or better.

The parameter PARM='MQPB " DIS CHS(TO.MQPU*) ALL "3 2 ' produced the following.

14:30:07,TO.MQPU, 24,M, 3,MR, 0,b,0,xb,1,1,bs,0,br,0,us,0,ur,0,XQ,2207,2207,nt,209,209,BPM,0,0

14:30:10,TO.MQPU, 27,M, 53,MR, 16,b,3,xb,4,3,bs,25093,br,102,us,20,ur,3,XQ,1791,1742,nt,99,103,BPM,1505,6

14:30:13,TO.MQPU, 30,M, 53,MR, 0,b,0,xb,4,3,bs,0,br,0,us,0,ur,0,XQ,1791,1742,nt,99,103,BPM,0,0

Where the data columns are

MSGS (M), MSG Rate(MR), BATCHES RATE (b), XBATCSZ(xb), BYTSSSENT RATE(bs), BYTSRCVD RATE(br), BUFSSSENT RATE(us), BUFSSRCVD RATE(ur), XQTIME(XQ), NETTIME(NT), BYTES PER MESSAGE(BPM)

14:30:10, is the time of day

TO.MQPU, is the name of the channel

30, is the time from the start of the measurement, so you can use the data in a spread sheet

M, 53, MSGS (M), Number of messages sent or received during this session (since the channel was started)

MR, 16, MSG Rate, MSGS/TIME INTERVAL is the message rate. This is the difference in the number of messages processed/interval. $(53 - 3)/3 = 16$.

b,3, BATCHES RATE (b), the number of completed batches/second during this time interval

xb,4,3 XBATCSZ(xb),Size of the batches transmitted over the channel. Two values are displayed:

- A value based on recent activity over a short period of time.

- A value based on activity over a longer period of time.

This is an **indicator** that your system is performing normally. A significant variation in these values may indicate a problem with your system.

bs,25093, BYTSSSENT RATE(bs), bytes sent/second, during the interval. This includes control information sent by the message channel agent.

br,102, BYTSRCVD RATE(br), bytes received/second. This includes control information sent by the message channel agent.

us,20, BUFSSSENT RATE(us), Rate of transmission of buffers sent. This includes transmissions to send control information only.

ur,3, BUFSSRCVD RATE(ur), Rate of transmission of buffers received. This includes transmissions with control information only.

XQ,1791,1794 XQTIME(XQ), the time, in microseconds, that messages remained on the transmission queue before being

retrieved. The time is measured from when the message is put onto the transmission queue until it is retrieved to be sent on the channel and, therefore, includes any interval caused by a delay in the putting application. Two values are displayed:

A value based on recent activity over a short period of time.

A value based on activity over a longer period of time.

an **indicator** that your system is performing normally. A significant variation in these values may indicate a problem with your system.

Nt,99,103

NETTIME(NT), Amount of time, displayed in microseconds, of the time on the network. This is the time for a sender channel to send an end of batch, and wait for a response – the processing at the remote end.

Two values are displayed:

A value based on recent activity over a short period of time.

A value based on activity over a longer period of time.

This is an **indicator** that your system is performing normally. A significant variation in these values may indicate a problem with your system.

BPM,1500,6

BYTES PER MESSAGE(BPM), Average Bytes sent Per Message, Bytes received Per Message. These are calculated from Bytes sent/ number of messages processed, and Bytes received/ number of messages processed.

This data can be used for example to display rates over time.

XMITQ Depth and In/Out Rate

