

Assignment Report

CSCE-313-512

PA3 Interposes Communication Mechanisms

Video Demo - <https://youtu.be/Uq1k-WF-0yi>

Downloading 1K Data Points for E=1 and P=1 using all 3 IPC Channels:

Using FIFO:

Using 1 channel

1. 3.744 seconds
2. 3.694 seconds
3. 3.826 seconds

Using 5 channel

1. 5.59 seconds
2. 5.54 seconds
3. 5.63 seconds

Using 10 channel

1. 3.81 seconds
2. 3.51 seconds
3. 3.77 seconds

Using 20 channel

1. 3.71 seconds
2. 3.68 seconds
3. 3.60 seconds

Using 50 channel

1. 3.59 seconds
2. 3.62 seconds
3. 3.63 seconds

Using 70 channel

1. 3.85 seconds
2. 3.83 seconds
3. 3.79 seconds

Using Message Queue:

Using 1 channel

1. 3.97 seconds
2. 3.96 seconds
3. 3.92 seconds

Using 5 channel

1. 3.70 seconds
2. 3.68 seconds
3. 3.71 seconds

Using 10 channel

1. 3.49 seconds
2. 3.49 seconds
3. 3.56 seconds

Using 20 channel

1. 3.46 seconds
2. 3.54 seconds
3. 3.68 seconds

Using 50 channel

1. 3.60 seconds
2. 3.63 seconds
3. 3.61 seconds

Using 70 channel

1. 3.73 seconds
2. 3.81 seconds
3. 3.62 seconds

Using Shared Memory

Using 1 channel

1. 4.08 seconds
2. 3.96 seconds
3. 3.91 seconds

Using 5 channel

1. 3.46 seconds
2. 3.45 seconds
3. 3.40 seconds

Using 10 channel

1. 3.59 seconds
2. 3.59 seconds
3. 3.51 seconds

Using 20 channel

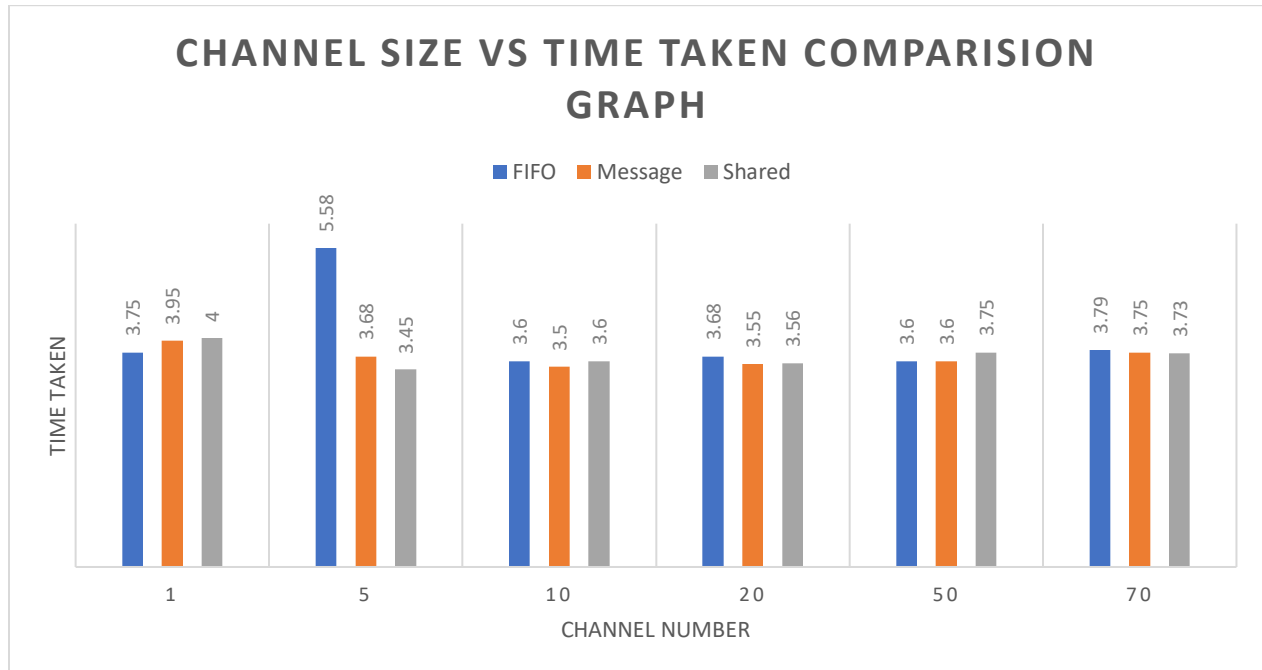
1. 3.54 seconds
2. 3.57 seconds
3. 3.58 seconds

Using 50 channel

1. 3.59 seconds
2. 3.60 seconds
3. 3.62 seconds

Using 70 channel

1. 3.75 seconds
2. 3.71 seconds
3. 3.80 seconds



Note: We saw a sharp increase in values for FIFO Channel for $c = 5$ and apart from that every other IPC method behaved similarly. As we can see for FIFO, we are getting 6 seconds to output data while every other IPC Mechanisms take almost similar time to get the 1K Data Points.

Downloading 0.1 MB (100 KB) File for using all 3 IPC Channels:

1. FIFO – 22007 microseconds
2. Message Queue – 22303 microseconds
3. Shared Memory – 36251 microseconds

Downloading 1 MB File for using all 3 IPC Channels:

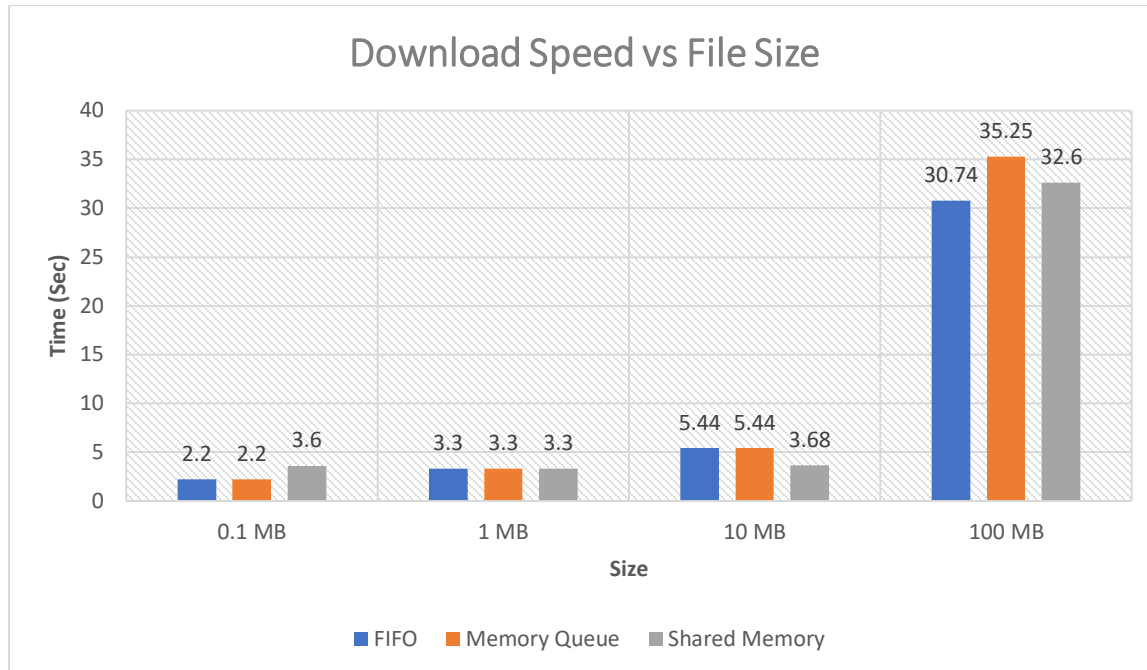
1. FIFO – 336140
2. Message Queue – 336853
3. Shared Memory – 366483

Downloading 10 MB File for using all 3 IPC Channels:

1. FIFO – 3.31 seconds
2. Message Queue – 5.44 seconds
3. Shared Memory – 3.681 seconds

Downloading 100 MB File for using all 3 IPC Channels:

1. FIFO – 30.74 seconds
2. Message Queue – 35.25 seconds
3. Shared Memory – 32.60 seconds



Note: There was a sudden increase in the Memory Queue for $c=5$ and File Size = 100MB. It took 5 more seconds compared to FIFO and 3 more seconds compared to Shared Memory.