Bagan Pipeline untuk pemrosesan parallel pada perekapan pembelajaan dan pengiriman barang dan infrastruktur sekolah

**Data2=15**

**Data1=20**

**(15\*rank)\*rank**

**(20\*rank)\*rank**

**20\*rank**

**20\*rank**

**15\*rank**

Proses 1 (Genap)

Proses 1 (Ganjil)

Proses 2 (Ganjil)

Proses 2 (Genap)

Proses 0

**DataHasil = ((Data1\*1000000)\*6 )+( (Data2\*1000000)\*6)**

**Data4 = (Data2\*1000000)\*6**

**Data3 = (Data1\*1000000)\*6**

**Data4 = (Data1\*1000000)\*6**

Proses 0

**Data2\*1000000**

Proses 0

Proses 1

Proses 2

**Data1**

**Data2**

**Data1\*1000000**

Proses 3

Proses 4

Data Hasil sendrecv

Outsum = Data [n0] + Data [n1]+Data [n2]+ Data [nn]+ Data [nn+1]

Outmin= return MINVALUE[]

Outmax= return MAXVALUE[]

Reduce Array

Data [nn+1]

Data [nn]

Data [n2]

Data [n0]

Data [n1]

MPI\_SUM, MPI\_MEAN, MPI\_MIN, MPI\_MAX

root (rank 0)

rank 1

rank 2

rank n

rank n+1

rank 0

0

2

MPI\_SUM, MPI\_MIN, MPI\_MAX

root (rank 0)

0

18

9

1

7

**Proses 1**

0

n[11:14]

**- Scatter data5[0:n]**

10

9

**Proses 5**

**Gather data6[0:n]**

5

n[15:18]

**- Gather data4**

**- Bcast data2[0:n]**

**Proses 4**

6

5

8

7

3

4

3

**- Send data1**

**- Recv data1**

**- Recv data1**

**- Recv data1**

**- Bcast data2[0:n]**

**Proses 2**

**- Scatter data3[0:n]**

**- Scatter data3\_1[0:n]**

**- Scatter data3[0:n]**

**- Gather data3\_1**

**- Gather data3**

**Proses 3**

**- Gather data4\_1**

**- Gather data3[0:n]**

**- Scatter data5\_1[0:n]**

MPI\_SUM

root (rank 0)

**Proses 6**

**data6[0:n]**

Outallreduce = Data [n0] + Data [n1]+Data [n2]+ Data [nn]+ Data [nn+1]

Outsum = Data [n0] + Data [n1]+Data [n2]+ Data [nn]+ Data [nn+1]

Outmax= return MAXVALUE[]

Outmin= return MINVALUE[]