

Balanced
File Read

Data
Distribution

Local Join

Join Result
Distribution

Local
Aggregation

Edge
(local)

Edge
(distributed)



CC
(Delta, Full)

Join result
(local)

Join result
(distributed)

CC
(Full)

CCDelta
(CCFull - CCPrevFull)

MPI_Alltoallv

MPI_Alltoallv

Node 0 GPU 0

1	2
2	1
2	3
3	2

2	1
2	3
6	4

2	2
6	6

1	2
3	2
4	6

2	1
2	3
6	4

2	1
6	4

2	1
6	4

Node ID

Inner

Outer

ID 1 < 2
ID 4 < 6

Node 1 GPU 0

4	5
4	6
5	4
6	4

1	2
3	2
4	5
4	6
5	4

1	1
3	3
4	4
5	5

2	1
2	3
5	4
6	4
4	5

1	2
3	2
4	5
4	6
5	4

1	1
3	2
4	4
5	4

3	2
5	4

ID 2 < 3
ID 4 < 5