

vertex_scatter (vertex v)
 send updates over out-edges of v

vertex_gather (vertex v)
 apply updates from in-edges of v

while not done
 for all vertices v that requires to scatter updates
 vertex_scatter (v)
 for all vertices v that have updates
 vertex_gather (v)

(a)

edge_scatter (edge e)
 send updates over e

update_gather (update v)
 apply update v to v. dest

while not done
 for all edges e
 edge_scatter (e)
 for all updates v
 update_gather (v)

(b)