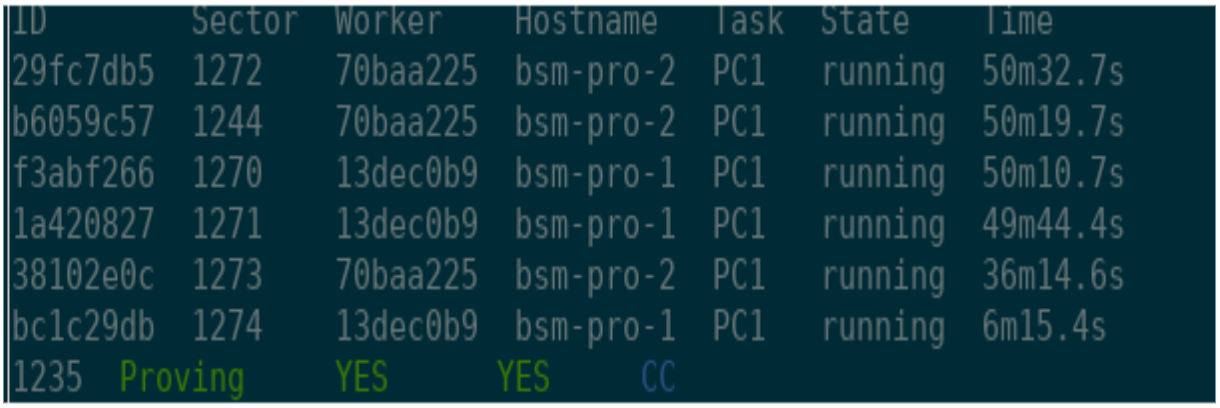
Separate servers PC1 and PC2 task support Issue

More than one worker running a PC1 and a PC2 dedicated server is one of the few cases in the scheduler that doesn't work too well.

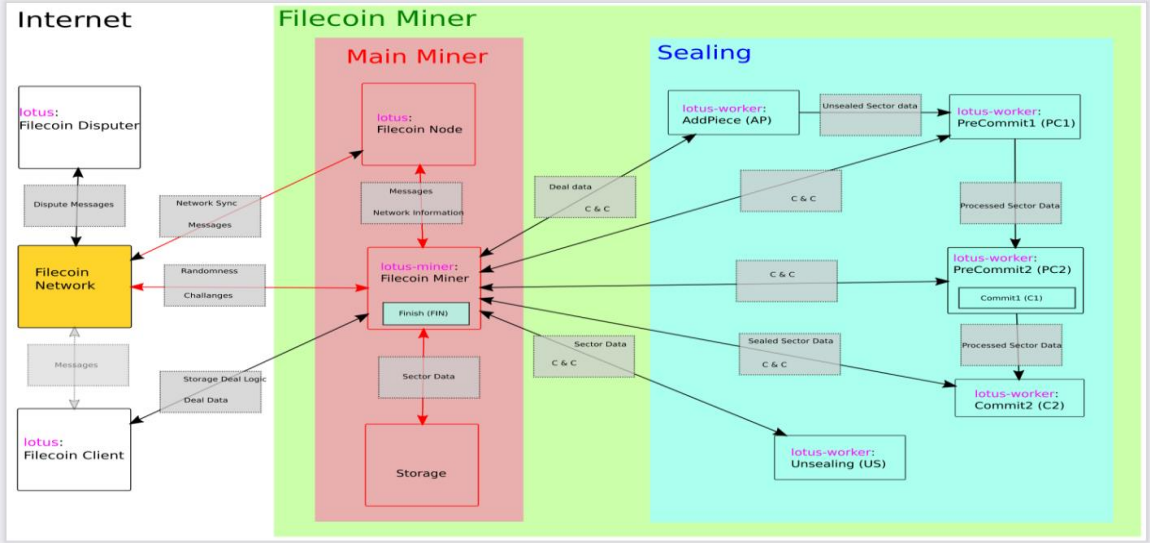
The data transfer between step PC1 and PC2 is ~500GB.

Consider that we have multiple servers that they do PC1 and PC2 on separate machines. For example, two servers that both do PC1 or PC2.the data will be transferred to both directions over the network. This problem only occurs when PC1 + PC2 on more than one machine.



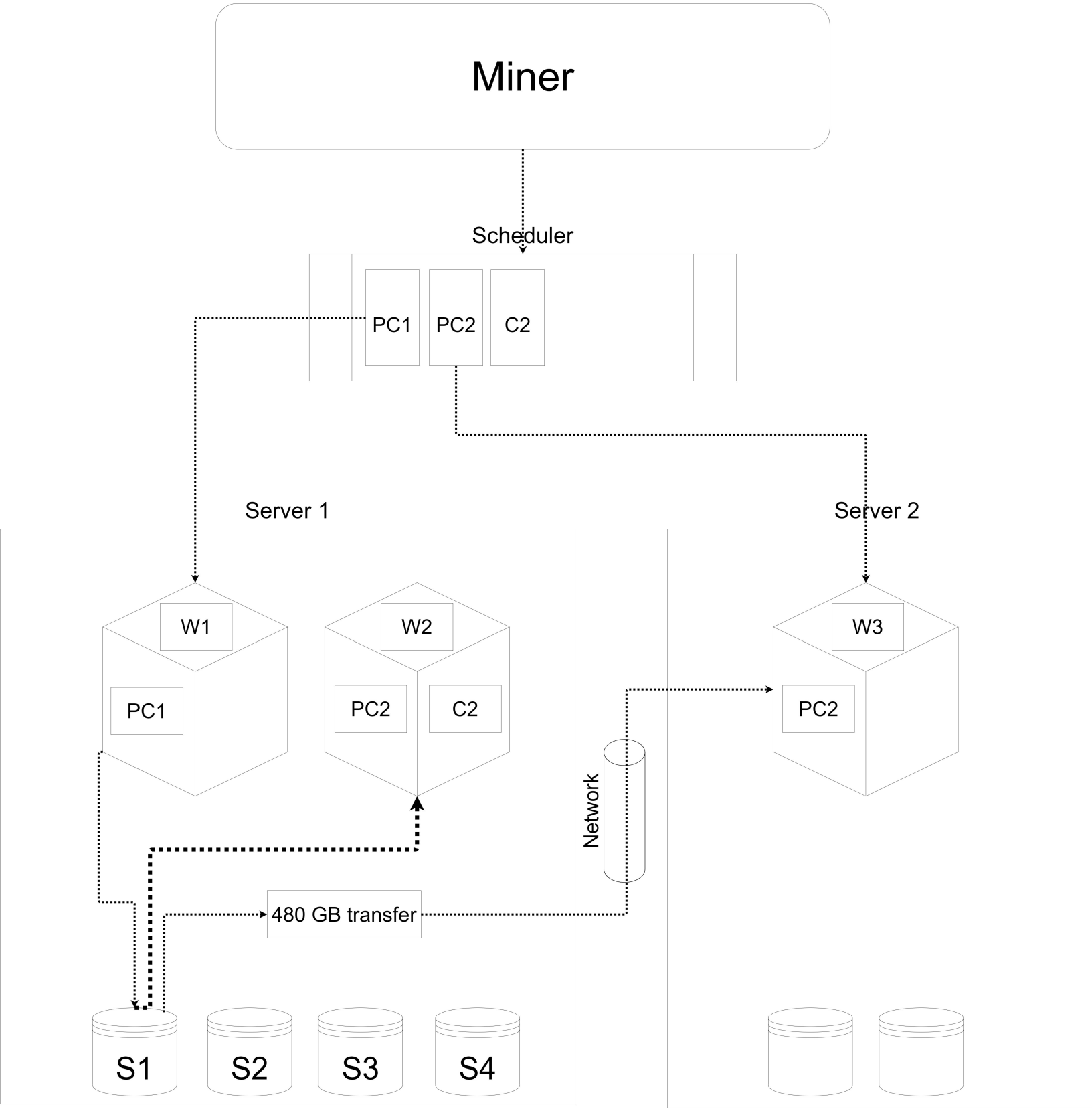
pro-1 will send its first pc2 to pro-2 and vice versa. As you see the tasks are copied to servers over the network. the scheduler is scheduling tasks based on resources. As soon as it finds an open window that has required resources it will assign it.

The PC1 worker will finish its work, report that it finished to the lotus-miner and the miners' scheduler then looks for a PC2 worker to schedule the next step too. the miner is not "aware" of server layouts. it just knows that 1.2.3.4:1234 will take PC2 jobs and then initiates the transfer of the data from the PC1 worker to the PC2 worker, the PC2 worker will report that it received the data and starts the PC2 task then.



In this workflow, you can find which tasks will work fine if they are on the same server but it merged main tasks so the layout requires changing the resources to expensive setups. You can run the whole green part on a single server. Also, you can start/stop workers as needed or limit resources to force certain processing steps onto specific servers.

The proper solution is modifying the scheduler by adding some logic. The ability to control the flow of a sector is required when using workers on separate servers: For example, the ability to assign a specific PC1, PC2, and C2 worker to a specific sector, or linking workers together so that a PC1 worker always sends sectors to the same assigned PC2 worker, etc. Some configs like which worker has access to which sectors but It needs to check the current implementation.


Miner
Scheduler
PC1
PC2
C2
Server 1
Server 2
W1
PC1
W2
PC2
C2
W3
PC2
Network
480 GB transfer
S1
S2
S3
S4