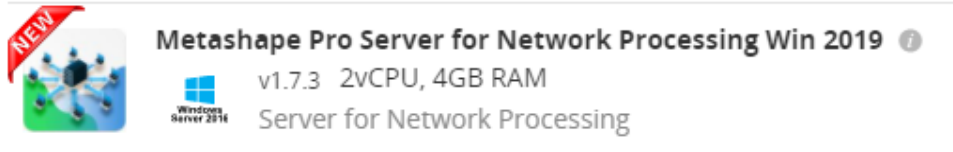
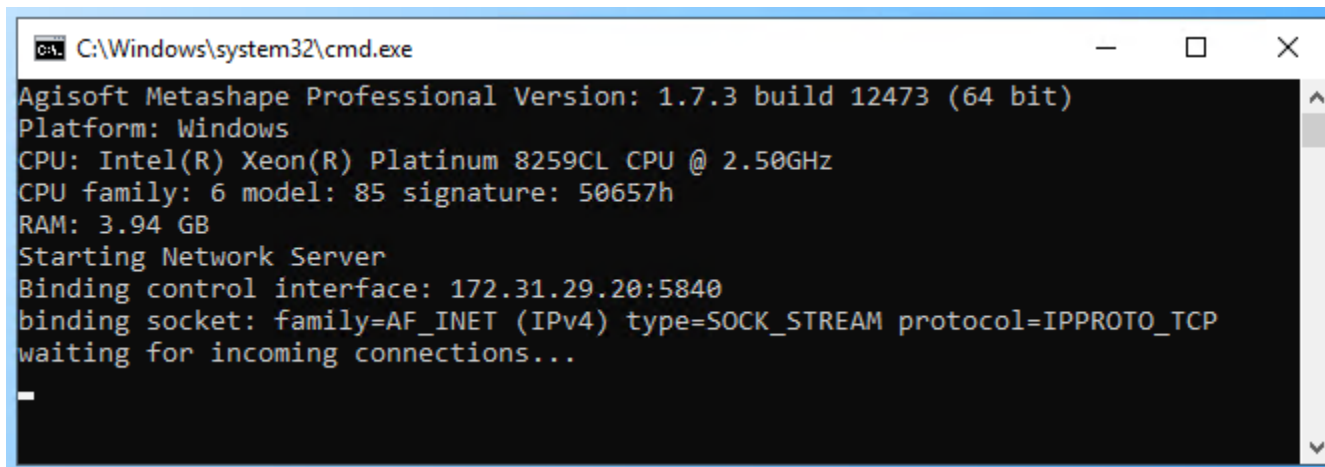


## 1. Run Metashape Pro Server

- 1.1 Select and start Metashape Pro Server for Network Processing



- 1.2 After connecting to the application through RDP, the Command Prompt (CMD) starts automatically.
- 1.3 The Command Prompt (CMD) will automatically execute the following command:  
"c:\program files\agisoft\metashape pro\metashape.exe" --server --control Private IP Address --dispatch Private IP Address
- 1.4 Wait until the next message appears

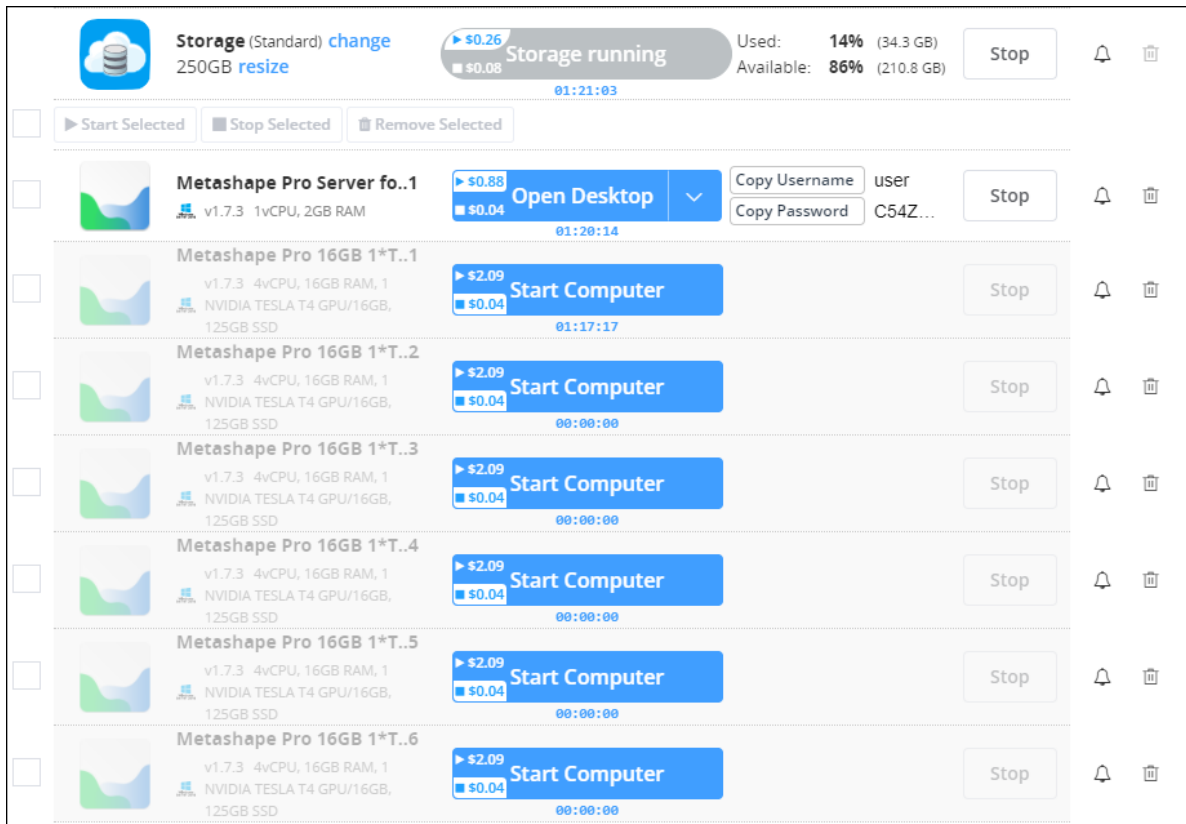


```
C:\Windows\system32\cmd.exe
Agisoft Metashape Professional Version: 1.7.3 build 12473 (64 bit)
Platform: Windows
CPU: Intel(R) Xeon(R) Platinum 8259CL CPU @ 2.50GHz
CPU family: 6 model: 85 signature: 50657h
RAM: 3.94 GB
Starting Network Server
Binding control interface: 172.31.29.20:5840
binding socket: family=AF_INET (IPv4) type=SOCK_STREAM protocol=IPPROTO_TCP
waiting for incoming connections...
-
```

- 1.5 The network communication folder **X:\Metashape\_Network\_Dir** automatically created on storage X:
- 1.6 Leave CMD window open.

## 2. Run Metashape Pro computers for processing (NODES)

2.1 Choose several Metashape Pro for Network Processing. You can choose different Metashape configurations.



The screenshot displays the GeoCloud management interface. At the top, there is a 'Storage (Standard)' section with a 'change' link and a 'Storage running' status bar showing 'Used: 14% (34.3 GB)' and 'Available: 86% (210.8 GB)'. Below this, there are several server instances listed:

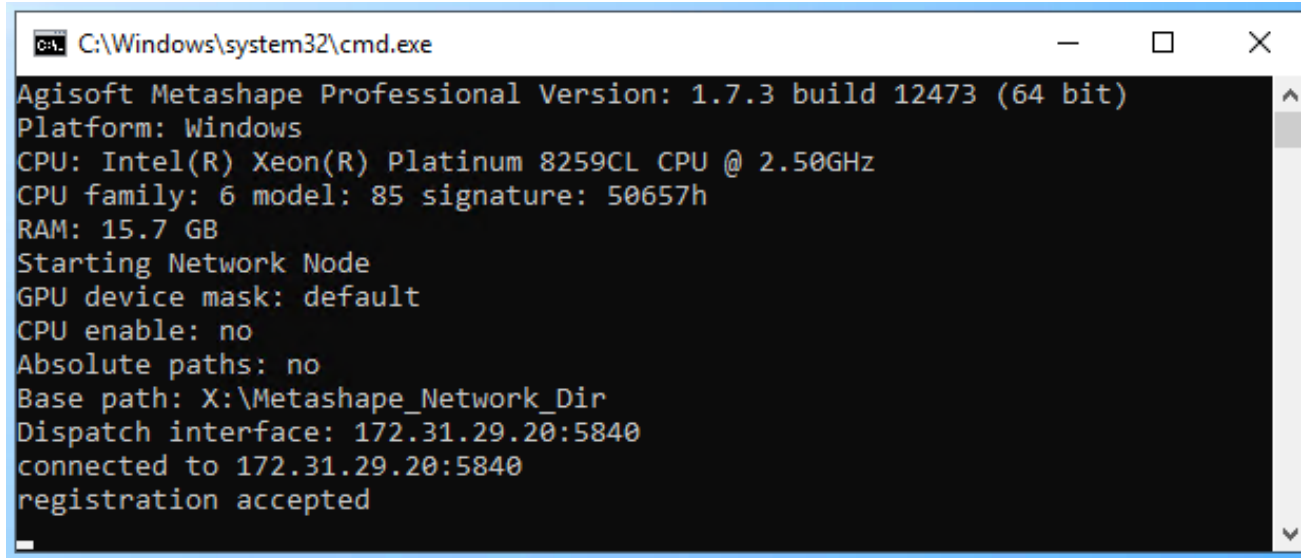
- Metashape Pro Server fo..1**: v1.7.3, 1vCPU, 2GB RAM. Price: \$0.88/hour, \$0.04/minute. Includes 'Open Desktop' button and fields for 'Copy Username' (user) and 'Copy Password' (C54Z...).
- Metashape Pro 16GB 1\*T..1**: v1.7.3, 4vCPU, 16GB RAM, 1 NVIDIA TESLA T4 GPU/16GB, 125GB SSD. Price: \$2.09/hour, \$0.04/minute. Includes 'Start Computer' button.
- Metashape Pro 16GB 1\*T..2**: v1.7.3, 4vCPU, 16GB RAM, 1 NVIDIA TESLA T4 GPU/16GB, 125GB SSD. Price: \$2.09/hour, \$0.04/minute. Includes 'Start Computer' button.
- Metashape Pro 16GB 1\*T..3**: v1.7.3, 4vCPU, 16GB RAM, 1 NVIDIA TESLA T4 GPU/16GB, 125GB SSD. Price: \$2.09/hour, \$0.04/minute. Includes 'Start Computer' button.
- Metashape Pro 16GB 1\*T..4**: v1.7.3, 4vCPU, 16GB RAM, 1 NVIDIA TESLA T4 GPU/16GB, 125GB SSD. Price: \$2.09/hour, \$0.04/minute. Includes 'Start Computer' button.
- Metashape Pro 16GB 1\*T..5**: v1.7.3, 4vCPU, 16GB RAM, 1 NVIDIA TESLA T4 GPU/16GB, 125GB SSD. Price: \$2.09/hour, \$0.04/minute. Includes 'Start Computer' button.
- Metashape Pro 16GB 1\*T..6**: v1.7.3, 4vCPU, 16GB RAM, 1 NVIDIA TESLA T4 GPU/16GB, 125GB SSD. Price: \$2.09/hour, \$0.04/minute. Includes 'Start Computer' button.

2.2 Start one Metashape App

2.3 The Command Prompt (CMD) will automatically execute the following command:

```
"c:\program files\agisoft\metashape pro\metashape.exe" --node --host Private IP Address --root X:\Metashape_Network_Dir
```

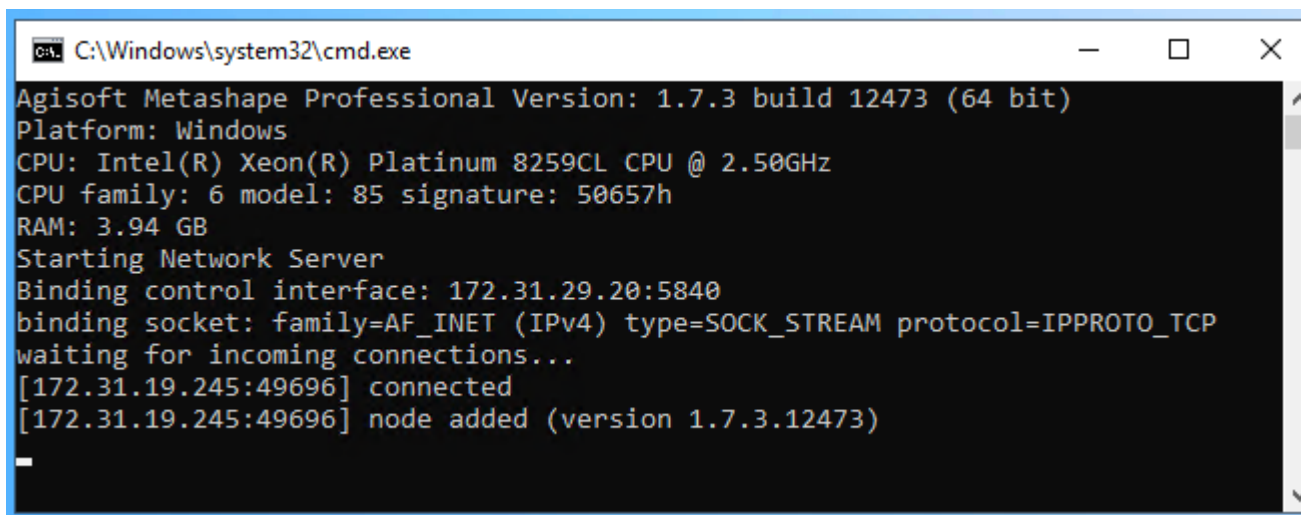
You will see the following information in CMD window



```
C:\Windows\system32\cmd.exe
Agisoft Metashape Professional Version: 1.7.3 build 12473 (64 bit)
Platform: Windows
CPU: Intel(R) Xeon(R) Platinum 8259CL CPU @ 2.50GHz
CPU family: 6 model: 85 signature: 50657h
RAM: 15.7 GB
Starting Network Node
GPU device mask: default
CPU enable: no
Absolute paths: no
Base path: X:\Metashape_Network_Dir
Dispatch interface: 172.31.29.20:5840
connected to 172.31.29.20:5840
registration accepted
```

**Don't close the CMD window and don't start Metashape Pro program !!!**

At the CMD window of Metashape Pro Network Server you will see:



```
C:\Windows\system32\cmd.exe
Agisoft Metashape Professional Version: 1.7.3 build 12473 (64 bit)
Platform: Windows
CPU: Intel(R) Xeon(R) Platinum 8259CL CPU @ 2.50GHz
CPU family: 6 model: 85 signature: 50657h
RAM: 3.94 GB
Starting Network Server
Binding control interface: 172.31.29.20:5840
binding socket: family=AF_INET (IPv4) type=SOCK_STREAM protocol=IPPROTO_TCP
waiting for incoming connections...
[172.31.19.245:49696] connected
[172.31.19.245:49696] node added (version 1.7.3.12473)
```

2.4 You can minimize the RDP window of this App or even close it. We recommend that the first NODE (RDP window) remains open for further work as a CLIENT, and all other NODES (RDP windows) can be closed.

2.5 Repeat 2.2 - 2.4 for every Metashape App (NODE) you want to use in the Network.

### 3. Define Metashape Pro as CLIENT and run a project

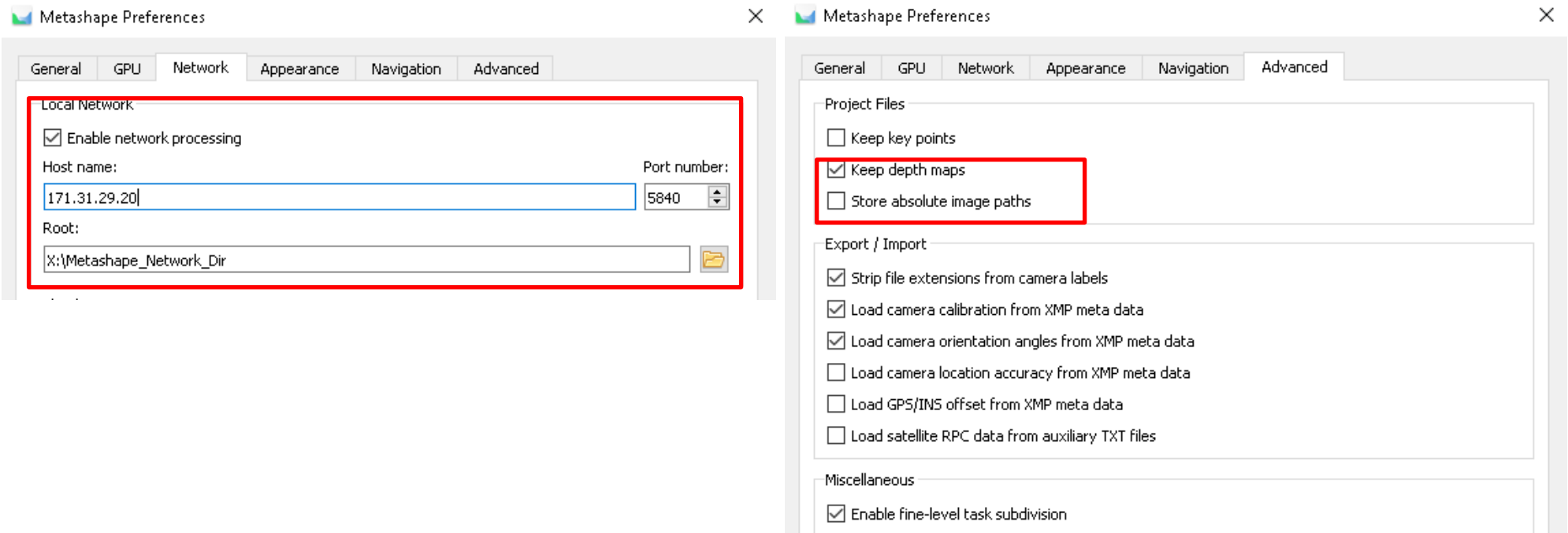
3.1 Start Metashape program in one of the above selected Metashape Apps. This Metashape will serve as a CLIENT.

3.2 In the bottom-right corner of the GUI window on CLIENT you will see "connected to server" icon.

3.3 Create a new project and save it in PSX format in the folder X:\Metashape\_Network\_Dir.

**Pay attention! PSZ format is not supported in Network configuration.**

3.4 Check out that the following parameters are switched on in **Tools/Reference/Network** and **Tools/Reference/Advanced**



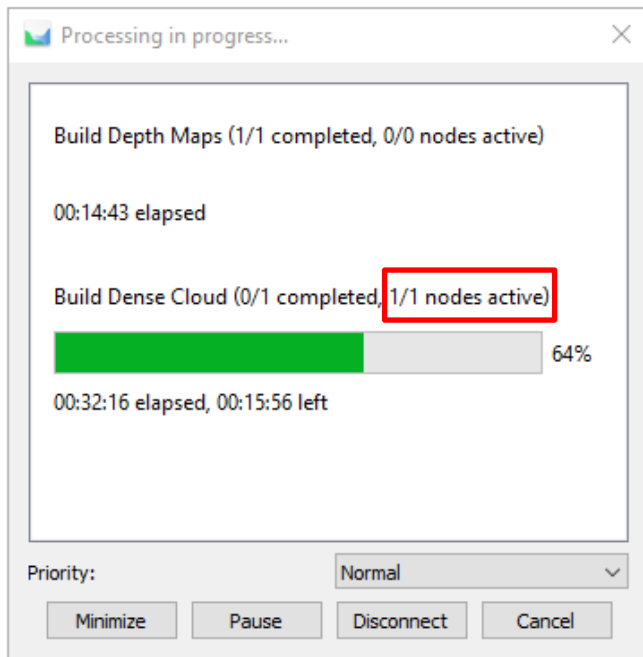
3.5 Run you project on the CLIENT.

3.6 You can check the connections and monitor the process in the Agisoft Network Monitor program opened in the CLIENT

3.7 If you want to run your project using Batch Processing, on the CLIENT select **Workflow/Batch Process**, define the processing stages and parameters, and click OK to run. You'll be asked, if you want to run the processing via network, click OK and the small network processing progress dialog will appear. After that you can press Disconnect on the CLIENT machine and close Metashape GUI. The processing itself will be executed on NODE machines. You can see it via Network Monitor and reading the logs in the terminal both on SERVER and NODE machines.

#### 4. Tips for Network processing

1. Different processes can be processed in parallel on different number of nodes (computers). Even inside the process, some sub-processes can run only on one node, while the others – on several nodes. For examples the 3/29 below means that there are three nodes in the cluster, but this specific stage of processing may be divided to 29 jobs running in parallel in 29 nodes. This information is important for analyzing and planning your cluster configuration for large projects.



Processing in progress...

Build Depth Maps (1/1 completed, 0/0 nodes active)

00:14:43 elapsed

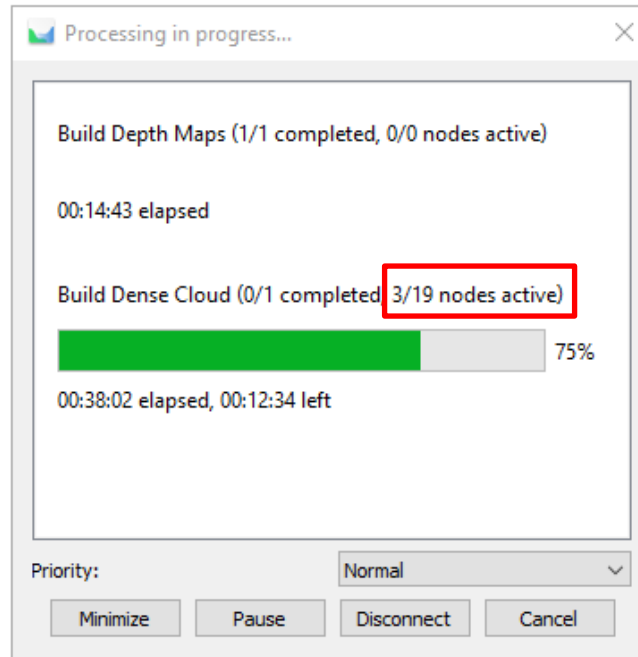
Build Dense Cloud (0/1 completed, 1/1 nodes active)

64%

00:32:16 elapsed, 00:15:56 left

Priority: Normal

Minimize Pause Disconnect Cancel



Processing in progress...

Build Depth Maps (1/1 completed, 0/0 nodes active)

00:14:43 elapsed

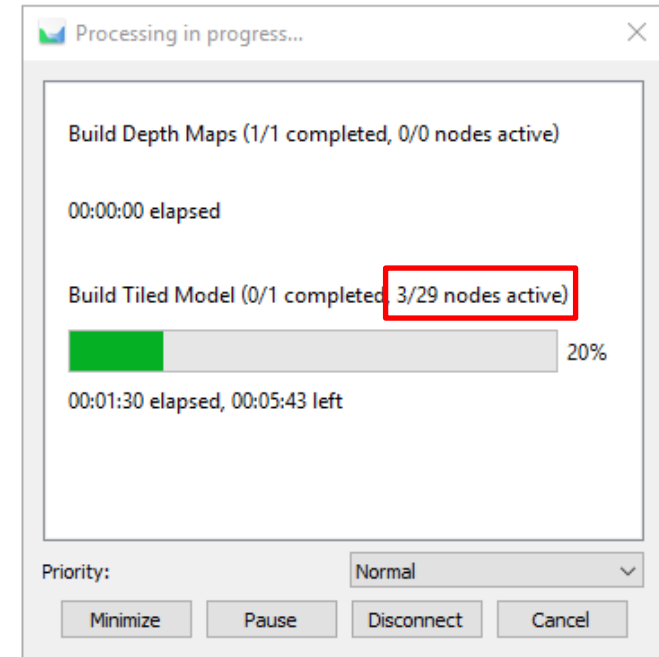
Build Dense Cloud (0/1 completed, 3/19 nodes active)

75%

00:38:02 elapsed, 00:12:34 left

Priority: Normal

Minimize Pause Disconnect Cancel



Processing in progress...

Build Depth Maps (1/1 completed, 0/0 nodes active)

00:00:00 elapsed

Build Tiled Model (0/1 completed, 3/29 nodes active)

20%

00:01:30 elapsed, 00:05:43 left

Priority: Normal

Minimize Pause Disconnect Cancel

2. You can monitor the work of the nodes in Agisoft Network Monitor. It shows all nodes available and what is working at every moment of processing.

Agisoft Network Monitor

File View Help

Host name: 172.31.29.20 Port: 5840 Disconnect

#	Project	Started	Finished	Total Time	Username	Status	Priority	Node Limit	Version	Current Task	Elapsed
2	Project-Network-1.psx	2021-07-17 07:42:34			user	Working	Normal		1.7.3.12473	Build Dense Cloud (65.4%)	00:32:49

#	Host	Connected	Disconnected	Version	Status	Priority	Capability	GPU Mask	CPU Enable	Batch #	Progress	RAM	CPU
0	EC2AMAZ-34NRE98 (172.31.19.245)	2021-07-17 07:07:43		1.7.3.12473	Working	Normal	Any		No	2	70.0%	11.0/15.7GB	97.5%
1	EC2AMAZ-34NRE98 (172.31.18.216)	2021-07-17 07:21:01		1.7.3.12473	Ready	Normal	Any		No			0.0/15.7GB	0.0%
2	EC2AMAZ-34NRE98 (172.31.19.53)	2021-07-17 07:21:36		1.7.3.12473	Ready	Normal	Any		No			0.0/15.7GB	0.0%

Agisoft Network Monitor

File View Help

Host name: 172.31.29.20 Port: 5840 Disconnect

#	Project	Started	Finished	Total Time	Username	Status	Priority	Node Limit	Version	Current Task	Elapsed
2	Project-Network-1.psx	2021-07-17 07:42:34			user	Working	Normal		1.7.3.12473	Build Dense Cloud (76.9%)	00:38:35

#	Host	Connected	Disconnected	Version	Status	Priority	Capability	GPU Mask	CPU Enable	Batch #	Progress	RAM	CPU
0	EC2AMAZ-34NRE98 (172.31.19.245)	2021-07-17 07:07:43		1.7.3.12473	Working	Normal	Any		No	2	81.2%	2.6/15.7GB	100.0%
1	EC2AMAZ-34NRE98 (172.31.18.216)	2021-07-17 07:21:01		1.7.3.12473	Working	Normal	Any		No	2	65.6%	2.9/15.7GB	90.5%
2	EC2AMAZ-34NRE98 (172.31.19.53)	2021-07-17 07:21:36		1.7.3.12473	Working	Normal	Any		No	2	78.8%	3.2/15.7GB	99.0%