Timings with varying Grid Sizes

In[1]:=
```
sizes = 2^(Range[6] + 5);
```

In[2]:=
```
globalMemTimes = {0.006781, 0.007112, 0.008976, 0.012738, 0.029692, 0.094213};
textureMemTimes = {0.007021, 0.008074, 0.009907, 0.014670, 0.033109, 0.098999};
textureSharedMemTimes =
  {0.007312, 0.007810, 0.009578, 0.013792, 0.035990, 0.097587};
textureNoCopyMemTimes = {0.000699, 0.001098,
   0.003788, 0.011974, 0.041241, 0.116662};
```

In[6]:=
```
Grid[{sizes, globalMemTimes, textureMemTimes,
  textureSharedMemTimes, textureNoCopyMemTimes}, Frame → All]
```

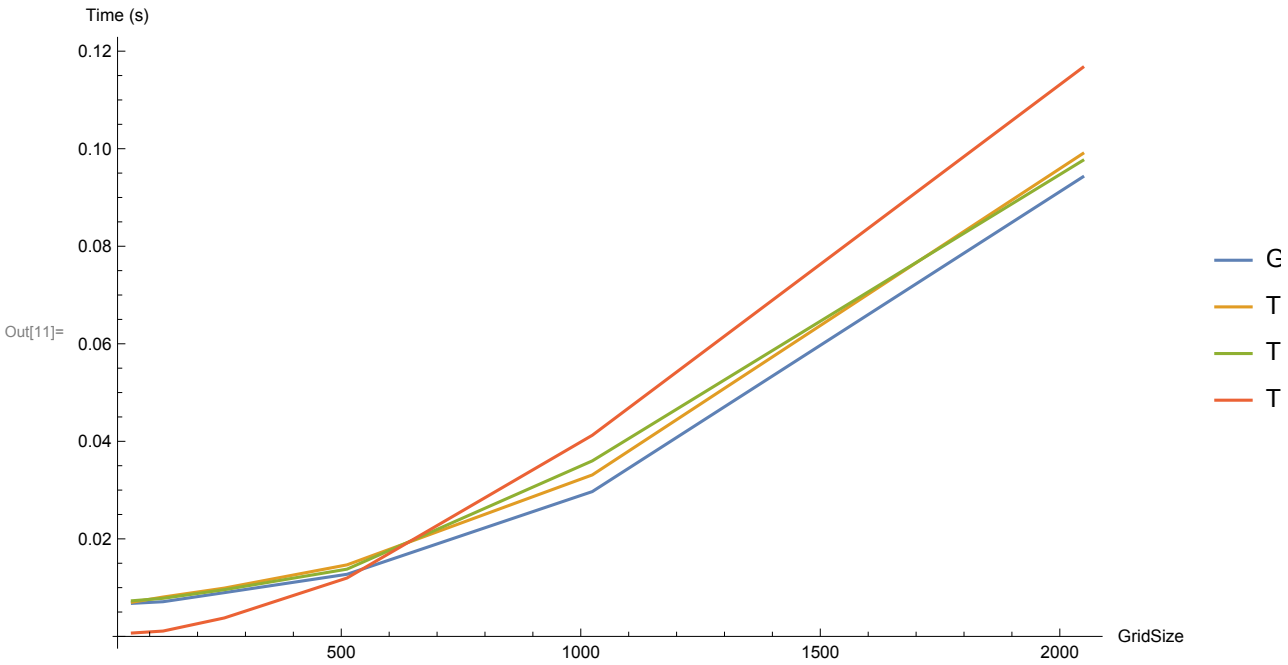
Out[6]=

64	128	256	512	1024	2048
0.006781	0.007112	0.008976	0.012738	0.029692	0.094213
0.007021	0.008074	0.009907	0.01467	0.033109	0.098999
0.007312	0.00781	0.009578	0.013792	0.03599	0.097587
0.000699	0.001098	0.003788	0.011974	0.041241	0.116662

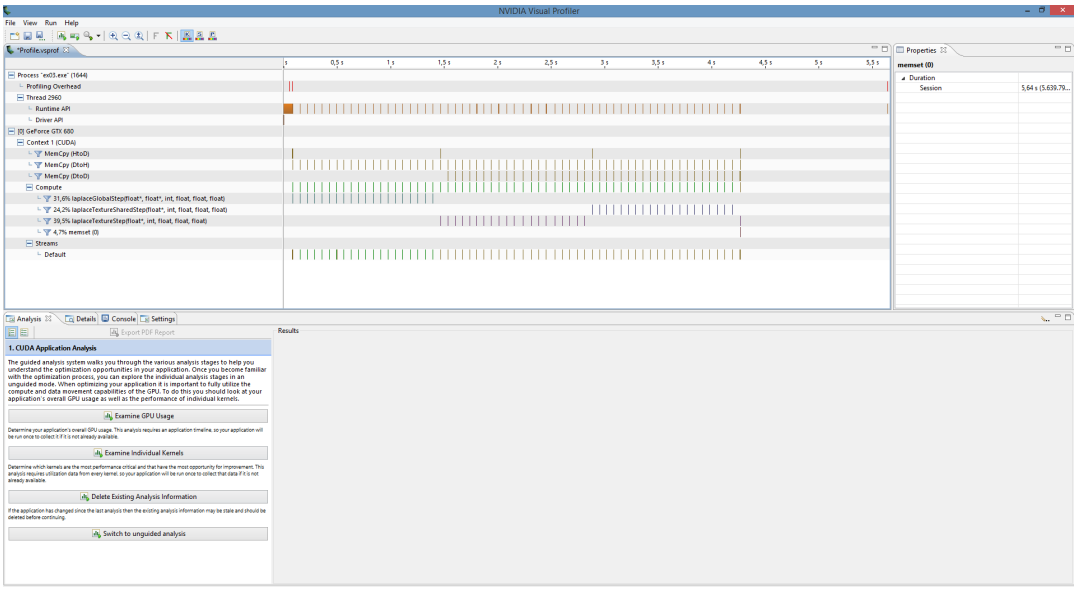
In[7]:=
```
globalMemPoints = MapThread[{#1, #2} &, {sizes, globalMemTimes}];
textureMemPoints = MapThread[{#1, #2} &, {sizes, textureMemTimes}];
textureSharedMemPoints =
  MapThread[{#1, #2} &, {sizes, textureSharedMemTimes}];
textureNoCopyMemPoints = MapThread[{#1, #2} &, {sizes, textureNoCopyMemTimes}];
```

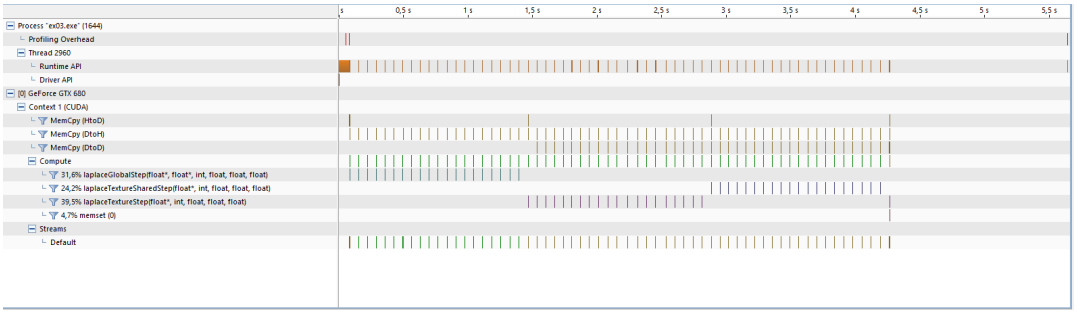
In[11]:=
```
ListPlot[{globalMemPoints, textureMemPoints, textureSharedMemPoints,
  textureNoCopyMemPoints}, PlotRange → All, Joined → True, PlotLegends →
  {"GlobalMem", "TextureMem", "TextureSharedMem", "TextureNoCopyMem"},
 ImageSize → Large, AxesLabel → {"GridSize", "Time (s)"}]
```

Out[11]=



Analysis using Nvidia Profiler





laplaceGlobalStep(float*, float*, int, float, float, float)

◢ Duration	
Session	5,64 s (5.639.79...
Kernel	834,31 µs
Invocations	20
Importance	31,6%

laplaceTextureSharedStep(float*, int, float, float, float)

◢ Duration	
Session	5,64 s (5.639.79...
Kernel	637,956 µs
Invocations	20
Importance	24,2%

laplaceTextureStep(float*, int, float, float, float)

◢ Duration	
Session	5,64 s (5.639.79...
Kernel	1,041 ms (1.04...
Invocations	40
Importance	39,5%