



What's New in TNTmips 2009?

Production-Oriented Job Processing

Exploits Multiple Cores and Threads

TNT Job Processing can significantly increase your productivity. TNT jobs are created by individual TNTmips processes or by your geospatial analysis (SML) scripts. TNT Job Processing queues and runs each job or task as a separate process so your computer OS can run them concurrently in separate independent threads/cores. Even a single core CPU can complete multiple export, resample, extract, fusion, and other TNT repetitive tasks about twice as fast using job processing. If a multiple-core CPU is available your completion times can increase many times. For example, an 8 core CPU sent hundreds of TNT tasks using job processing can finish them more than 10 times faster than running them sequentially one at a time. Likewise, a quad-core CPU can complete these tasks more than 5 times faster.

Tasks sent to be executed by Job Processing can be of mixed type. Each TNT task is described by a separate XML job file. A job file can also be edited or created manually or created by an interactive SML script. Each time a job is completed the next available task is automatically defined by its XML file, started, and allocated a thread/core according to a priority you can establish for each task.

Job Processing in TNTmips Pro runs automatically in the background polling for new jobs.

Unique Process ID for each job.

Status	Priority	ID	Name	Process ID	Run Time	Progress
Running	3	20090615_132903_00	Raster Resampling using Georeference CIR4525.rvc /	4036	00:00:56	██████████
Running	3	20090615_132903_01	Raster Resampling using Georeference CIR4526.rvc /	1312	00:00:56	██████████
Running	3	20090615_132903_02	Raster Resampling using Georeference CIR4527.rvc /	1028	00:00:56	██████████
Running	3	20090615_132903_03	Raster Resampling using Georeference CIR4625.rvc /	5760	00:00:56	██████████
Queue	3	20090615_132903_04	Raster Resampling using Georeference CIR4626.rvc /			██████████
Queue	3	20090615_132903_05	Raster Resampling using Georeference CIR4627.rvc /			██████████
Queue	3	20090615_133037_00	Geometric Warping via Georeference nvgeolutm.rvc /			██████████
Queue	3	20090615_133037_01	Geometric Warping via Georeference orgeolutm.rvc /			██████████
Queue	3	20090615_133037_02	Geometric Warping via Georeference utgeolutm.rvc /			██████████
Queue	3	20090615_133202_00	Topographic Properties Apex.rvc			██████████
Queue	3	20090615_133221_00	Topographic Properties FrenchmanMtn.rvc			██████████
Queue	3	20090615_133239_00	Topographic Properties Henderson.rvc			██████████
Queue	3	20090615_133300_00	Topographic Properties LasVegasNE.rvc			██████████
Queue	3	20090615_133318_00	Topographic Properties LasVegasSE.rvc			██████████
Queue	3	20090615_133337_00	Topographic Properties Valley.rvc			██████████

Maximum Running Jobs: 4 Total Pending: 15 Running: 4 Holding: 0 Queued: 11 Done: 46 Failed: 3

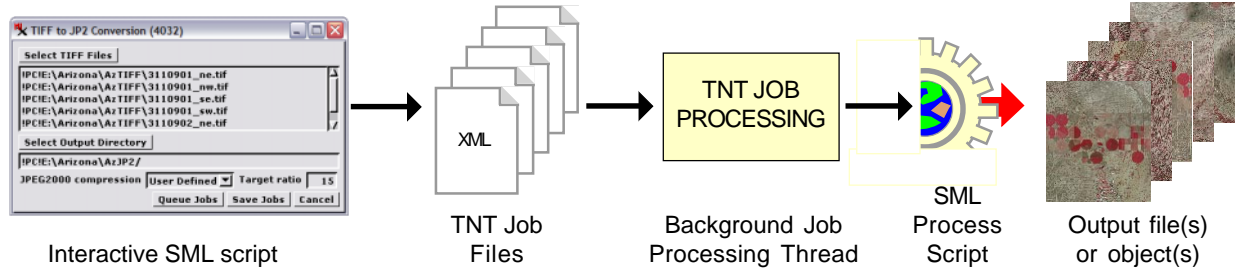
Just as in previous versions, each TNT process provides the Run button to run the task now. TNT processes that are of a repetitive nature now also provide new Queue Job and Save Job options to send the task to run in the background using job processing. For example, 100s of images can be selected in the Resample process to be resampled and reprojected. A single mouse click on the Queue Job button sends these tasks off to job processing to start immediately, while the Save Job buttons holds them in the system for a scheduled or manual start. The Job Manager window automatically opens when jobs are created, making it easy to schedule and monitor job processing tasks. For example, if the resampling tasks include a computationally intensive CRS conversion, these and many other computationally intensive tasks can be scheduled and prioritized to run overnight.

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Job Processing with Geospatial Scripts

Jobs being process by the Job Manager do not interact with you. However, you can use an Interactive Geospatial Script (SML) to collect your input parameters and create one or more XML job files in the TNT Jobs Folder. TNT Job Processing will then automatically use these job files to run the SML Process Script that each job file designates.



Advanced geospatial systems can be designed around TNT Job Processing. Web clients or other non-TNT local processes can be designed to create TNT XML Job files that TNTmips, using Job processing, will automatically detect and use to run a TNT process, SML script, or series of scripts on the geodata identified in the XML file. The results can then be retrieved as appropriate by end users or other polling programs.

- Production throughput increases even if only a single CPU core is available.
- Throughput increases several times when multiple cores (2, 4, 8, ...) are available.
- Uses both the multithreading and multiple cores of your computer.
- When jobs are running your computer continues to be available for other software including interaction with any TNT process.
- Sets up TNT processes to run many copies in the background.
- Job Manager window for control of each job's status and characteristics such as start time and priority.
- Run many copies of a custom SML production-oriented script(s) in the background.
- Job Processing is always running as a separate process in the background whenever the TNT menu is shown unless you deactivate it.
- When no jobs are running Job Processing is only polling in the background for tasks and uses almost none of your computer resources.

