

# **Managing Job Processing**

The Job Processing System (JPS) in TNTmips Pro allows you to increase processing efficiency by running tasks concurrently and to schedule processes to be run unattended at convenient times. The control center for managing your TNTmips jobs is the Job Manager window, which opens automatically (if not already open) whenever a new job file is created. You can also open the Job Manager manually by choosing Tools / Job Manager from the TNTmips menu.

One of the prime benefits of TNTmips Job Processing is that it allows you to easily run multiple processes simultaneously (concurrent processing) to maximize the use of your computer's multiple processor cores. Thus one of the critical settings on the Job Manager is the Maximum Running Jobs field at the bottom of the window, which sets how many jobs can be run simultaneously. When setting this value keep in mind the number of processor cores available on your computer. If you plan

to use the computer for other purposes while jobs are running in the background, consider setting the maximum number of running jobs to be less than the number of cores available on the computer to allow adequate CPU access for your ongoing interactive activities. You may need to experiment to find the correct setting to use for your system and for different processes, as some processes may be limited by the speed of reading and writing data rather than by CPU access.

The Job Manager allows you to monitor and control the processing of jobs you have created in various TNTmips processes, SML scripts, or other applications.

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right mouse button menu options.

# Selecting Jobs

The Job Manager provides tabbed panels that list jobs that are pending, done, failed, and scheduled, as well as a panel for job processing settings. On each of the panels that list jobs you can select one or more jobs with the mouse and perform actions on the selected set using buttons at the top of the panel. A left-click on a job listing selects that single job and deselects any already selected jobs; holding down the <Shift> key while left-clicking more than once selects a range of jobs in the list; and pressing the <Ctrl> key while left-clicking on an entry toggles selection of the job on or off. A Select All button is also provided on each panel to select all listed jobs. You can hover the cursor over the Name field for any job to see a DataTip with the names of the input and output files for that job.

# Pending Jobs

All current jobs that have not yet completed are listed on the Pending tabbed panel, which shows the current status, priority, process name, running time, and other information for each job. Pending jobs can have the status Running, Queue (waiting to run), or Holding. The Save Job button in a TNTmips process creates jobs with Holding status; these jobs remain in the pending list unprocessed until you manually release them to the queue. The Pending tabbed panel allows you to change the status and priority of jobs to manage the order in which they are processed and to move them to the Scheduled list. You can also manually disable or enable queueing of all jobs. For a full description of how you can actively manage pending jobs, see the TechGuide entitled System: Managing the Job Queue.

## Done Jobs

Successfully completed jobs are listed on the Job Manager's Done tabbed panel. Job files for all completed jobs are retained in the Job Processing System until you delete the jobs from the list in the Done tabbed panel using the Delete button at the top of the panel (or by right-clicking on the list entry and selecting Delete from the right mouse button menu). Completed jobs run

(over)

in the current TNTmips session show start, end, and run times for each job. Left-click on a column heading to sort the list according to the entries in that column. Left-clicking on the same heading toggles the sort order between ascending and descending. You can select a set of jobs in the list and see timing statistics at the bottom of the panel (see illustration to the right).

## **Failed Jobs**

Running jobs that you cancel

or that fail because of an error are listed on the Failed tabbed panel. Selecting a job and pressing the Open Log button on this panel shows the process log for the underlying process or SML script as well as any error messages that were generated. You can also use the Retry button to rerun selected jobs. The job files of all failed jobs are retained in

the Job Processing System until you delete them from the list in the Failed tabbed panel.

#### **Scheduled Jobs**

You can schedule individual jobs to run at particular times and to automatically repeat. Select the jobs on the Pending panel and press the Schedule Job button to open the Schedule

window (see the TechGuide entitled *System: Scheduling Individual and Repeating Jobs*). Individual jobs that you have scheduled are removed from the Pending panel and are listed on the Scheduled tabbed panel. The list shows the status for each scheduled job, which is either Enabled or Disabled; you can toggle the status on the Scheduled panel by selecting the job and pressing the Enable/Disable Job pushbutton. Press the Edit Schedule button to reopen the Schedule window to update the job schedule settings, or press the Delete button to delete the selected job(s).

😾 Job Manager	
Pending   Done   Fa	niled Scheduled Settings
Job Folder C:\tnt	<pre>\tnt80\Settings\rsmith\TNT Job Files</pre>
Port used for job Default priority	communication 5001
Send email when jo Mail to: tech@mycc	obs fail: mpany.con Mail from: jobprocessing@mycompany.com
🔵 Don't mail 🖲 Or	n each failed job 🗍 Once per hour 🗍 Once per day
🖲 Only run jobs f	ron 7 : 00 PH V # To 7 : 00 AH V
Repeat Every	
Monday   Tuesday   Hednesday   Thursday   Friday   Saturday	The Settings tabbed panel provides controls that allow you to set up e-mail notification for failed jobs, with a separate notification for each failed job or
Maximum Running	an hourly or daily e-mail listing failed jobs. You can also set time of day and day of week constraints on job processing.

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belect HII Upen Log	Uelete		
ID	Nane	Start Time	End Time
20140220_145716_01	Export: JP2		
20140220_145716_02	p045r025psCIRc.rvc / CIR_045_025 To CIR_045_025.jp2	15:20:30 2014-02-20	15:26:32 2
20140220_145716_03	p045r026psCIRc.rvc / CIR_045_026 To CIR_045_026.jp2	15:20:30 2014-02-20	15:26:30 2
20140220_145716_04	p045r027psCIRc.rvc / CIR_045_027 To CIR_045_027.jp2	15:20:30 2014-02-20	15:26:14 2
20140220_145716_05	p046r025psCIRc.rvc / CIR_046_025 To CIR_046_025.jp2	15:20:30 2014-02-20	15:26:25 2
20131004_101024_01	Geodata Catalog C:\Documents and Settings\rsmith\My Documents\MicroImages\Catalogs	10:10:14 2013-10-04	10:10:24 2
20131023_123108_01	Export Geometric Tileset - TownsendRockUnits2.tsd		
20131029_134146_01	Export Geometric Tileset - LancFloodplainSYG.tsd		
20131029_141745_01	Export Geometric Tileset - LancFloodplainSYG.tsd		
20131029_143719_01	Export Geometric Tileset - CBhydroSYG.tsd		
20131029_145331_01	Export Geometric Tileset - LancFloodplainSVG_0.tsd		
20131030_113719_01	Export Geometric Tileset - LancFloodplainSWM_SVG.tsd		
20131031_142506_01	Export Geometric Tileset - LancFloodplainSYG.tsd		
20131101_153443_01	Export Geometric Tileset - LancFloodplainKML.kml		
20131101_160056_01	Export Geometric Tileset - LancFloodplainKML.kml		
elected: 4 Averag	e Time: 00:05:55 Cumulative Time: 00:23:41 Clock Time: 00:06:02		

The Done tabbed panel shows job time statistics for the currently selected jobs, including average, cumulative, and clock time. Cumulative Time is the simple sum of the run times of individual jobs, ignoring the fact that some of these jobs may have run concurrently. Clock time is the actual elapsed time from the start of the first selected job to the end of the last selected job.

elect All	Open Log Retry	Delete Send error report			
Status 🔺	ID	Nane	Start Time	End Time	Run Tine
Unknown	20130604_111621_01	Export Raster Tilesets RI_NC_2008.	rvc /		140
– Unknown	20130604_111621_03	Section: 0, 1	11:16:24 2013-06-04	11:22:58 2013-06-04	6:34
– Unknown	20130604_111621_04	Section: 0, 2	11:16:24 2013-06-04	11:22:45 2013-06-04	6:21
– Unknown	20130604_111621_05	Section: 0, 3	11:16:24 2013-06-04	11:23:03 2013-06-04	6:39
– Unknown	20130604_111621_06	Section: 0, 4	11:21:19 2013-06-04	11:22:41 2013-06-04	1:22
– Unknown	20130604_111621_38	Create reduced levels	0:00:00 1900-01-00	11:21:46 2013-06-04	0

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Pend	ling   Do	ne   Failed	Scheduled Settin	gs		
Ena	able/Dis	able Job	Edit Schedule De	lete 🛃 🛃		
	Status	Priority	ID	Nane	Last Run Time	Next Run Time
	Enabled	2	20110818_111500_01	Daily earthquake epicenters for California	11:19:35 2014-02-21	12:19:34 2014-02-21
	Enabled	2	20110818_111815_01	Japan earthquake epicenters daily update	11:30:03 2014-02-21	11:29:59 2014-02-22

## E-mail Notification and Job Processing Constraints

When you install TNTmips, a Job folder is created automatically in a predefined location specific to your computer operating system. The Settings tabbed panel on the Job Manager shows the current location of the job folder and allows you to select a different folder location if desired using the Job Folder button. You can also set up e-mail notification of failed jobs (see illustration to the left) and set up time and day constraints on job processing. You can specify that jobs can run only between certain hours of the day (such as overnight) and/or only on certain days of the week. Setting day/time constraints turns off job processing by temporarily setting the Maximum Running Jobs value to 0 (regardless of the setting shown on the Job Manager). Thus if you use the Run Now button for a selected set of pending jobs during a time when running jobs is disallowed, the time constraint is overridden and the selected jobs are run immediately.