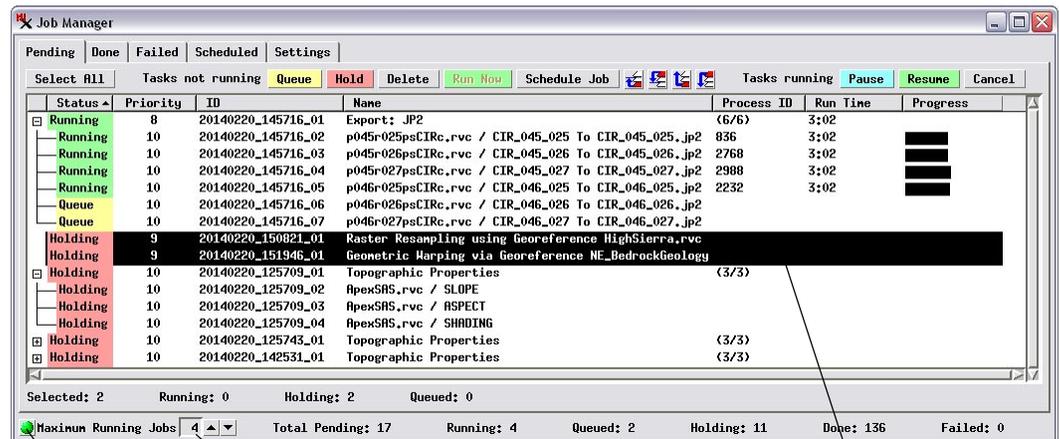


Managing Job Processing

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.



Disable/Enable Queueing of Jobs

The Maximum Running Jobs parameter sets how many jobs can run simultaneously.

You can select one or more jobs in any of the job lists to perform actions on the selected set using buttons at the top of the panel or with 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

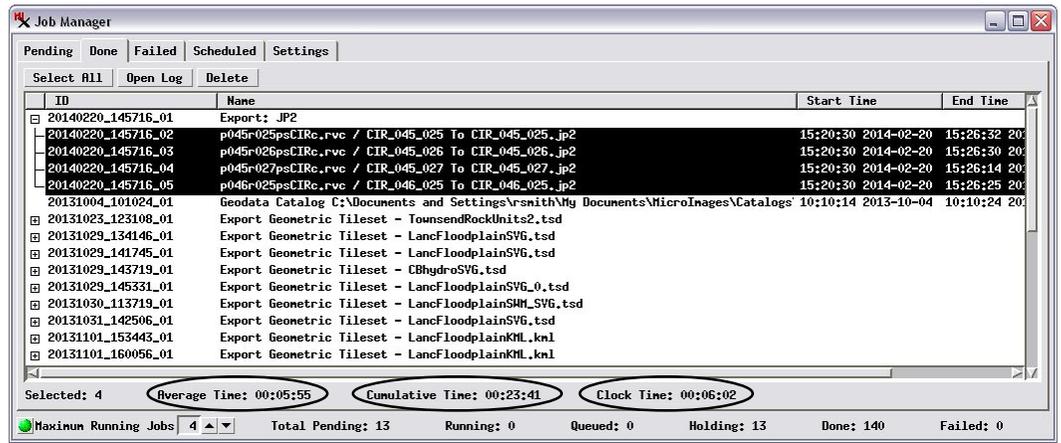
All current jobs that have not yet completed are listed on the Pending tabbed panel, which shows the current status, priority, process name, running time, and other information for each job. Pending jobs can have the status *Running*, *Queue* (waiting to run), or *Holding*. The Save Job button in a TNTmips 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)

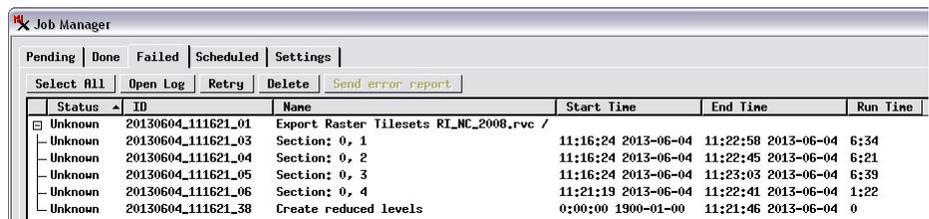
in the current TNTmips session show start, end, and run times for each job. Left-click on a column heading to sort the list according to the entries in that column. Left-clicking on the same heading toggles the sort order between ascending and descending. You can select a set of jobs in the list and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



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.

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.



Failed and canceled jobs are shown on the Failed tabbed panel. The Retry button adds the selected failed or canceled jobs back to the job queue.

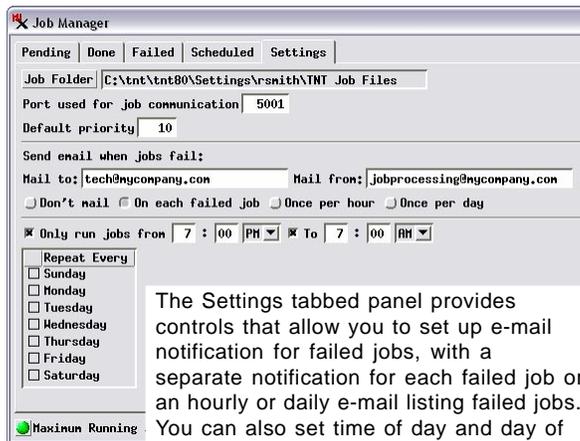
Scheduled Jobs

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).



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.



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 an hourly or daily e-mail listing failed jobs. You can also set time of day and day of week constraints on job processing.