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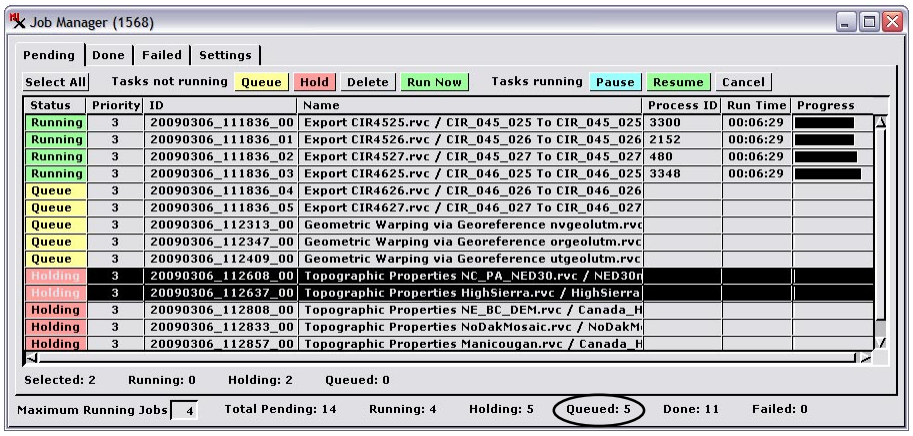
Managing the Job Queue

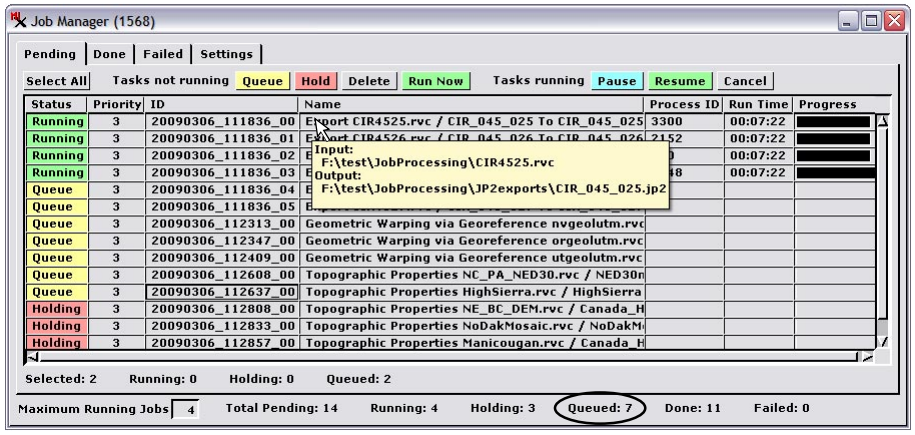
The TNTmips Job Manager is the interface that allows you to control the TNTmips Job Processing System. The part of this dialog that you will probably use most often is the Pending tabbed panel, which lists all current jobs that have not yet completed. This list shows the current status, priority, process name, running time, and other information for each job. More importantly, this panel allows you to manage the status and priority of pending jobs to determine the order in which they are run. These queue management tasks are described in detail below. A general introduction to the Job Manager is provided in the Technical Guide entitled *System: Managing Job Processing*.

Job Status

TNT processes provide two buttons to create jobs, a Queue Job button and a Save Job button. When you create a job with the Queue Job button, the job runs immediately if there are fewer than the maximum allowed number of jobs already running. In that case the job is added to the Pending list with its status shown as Running and the background color of its status field set to green. If the maximum allowed number of jobs are already running, any new jobs are added to the pending list with their status set to Queue and the background color of their status fields set to yellow. Jobs with Queue status are in a "waiting" state and are run automatically as previously running jobs complete and slots for running jobs open up. Therefore, if you don't wish to actively manage the job queue, you can simply use the Queue Job button to create all of your job files and let the Job Processing System automatically handle the execution of the jobs using the resources you have allocated to it. The labels at the bottom of the Job Manager window are continuously updated to show the current number of jobs in the various status categories.



The Pending tabbed panel of the Job Manager lists jobs that are currently running, waiting to run (Queue status), or being held. In above illustration two jobs that are holding (black highlight in list) have been selected to release to Queue status using the Queue button at the top of the window. In illustration below, these jobs now are queued to run, and the statistics at the bottom of the window have updated accordingly to show the addition of the two jobs to Queued status. Hovering the cursor over the name of a job pops in a DataTip showing the input and output file names.



When you create a job with the Save Job button in a TNTmips process, the job is added to the Pending list with its status set to Holding and the background color of its status field set to red. Jobs that are Holding remain in the pending list unprocessed until you manually release them to the queue. This allows you to save a number of jobs (perhaps from different processes) to the pending list and later determine when and in what order you want to release them for processing.

You can change the status of jobs you have selected in the Pending list by clicking one of the buttons at the top of the Pending panel or by choosing an option from the right mouse button menu. For jobs that are queued or holding,

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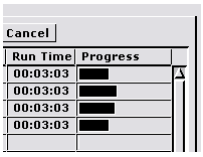
you can use the Queue button to release holding jobs or the Hold button to convert queued jobs to Holding status (note that the button color matches the color used for the result in the Status field). The Run Now button immediately runs the currently selected queued or holding jobs, even if doing so means that the number of running jobs exceeds the maximum allowed number of jobs you have specified in the Maximum Running Jobs field at the bottom of the Job Manager. For jobs that are currently running you can Pause or Cancel the job and Resume jobs you have previously paused.



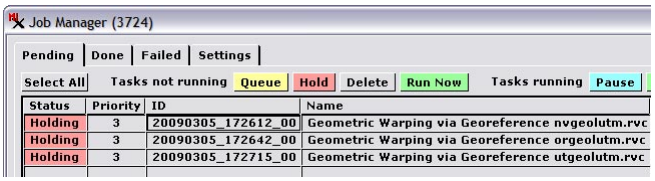
Progress bars are shown for running jobs on the Pending panel.

Progress bars are shown for running jobs in the Progress column of the Pending tabbed panel. Each of these bars reproduces the progress bar of the underlying process currently running as a job. Some TNTmips processes have multiple steps and thus show and increment a separate progress bar for each step when you run the process interactively. If the Job Manager is running such a multi-step process, the progress bar shown in the Job Manager also shows the progress for that job's current step, and thus you may see the bar finish and then restart for the same job. Jobs that run SML scripts may not show progress bars.

Job Priority

The order in which queued jobs are started depends upon the order in which they are created and their Priority. Jobs are added to and listed in the Pending panel in the order in which they are created, with newer jobs at the bottom of the list. Queued jobs at the top of the list are started before jobs lower in the list.

All jobs also have a Priority value, which can range from 5 (the lowest priority) to 1 (highest priority). A default priority value of 3 is assigned when a job is created by a TNTmips process. Queued jobs of equal priority are started in the order in which the jobs were created, but you can edit the priority value of nonrunning jobs (queued or holding) in the Pending list to change the order in which they are listed and run. Priority 1 jobs are placed above (and started before) priority 2 jobs, which are listed above (and started before) priority 3 jobs, and so on. An SML script or other application can create job files for the Job Processing System with any of the five priority values.



You can assign higher priorities (lower priority values) to jobs to change the order in which they are listed in the Pending tabbed panel and the order in which they will be started. These illustrations shows three jobs with their default priority of 3 (above) and the same three jobs reordered by assigning different priority values (below). If all of these jobs are released to Queue status at the same time, they will be started in the new order shown below.