Jpred 4
Incorporating Jnet

Monitoring Tools
Types

• “Live”
  – updates every min
  – URL: http://www.compbio.dundee.ac.uk/jpred4/monitor_all_in_one.shtml

• Usage patterns
  – Statistics per hour for the last 30 days
  – URL: http://www.compbio.dundee.ac.uk/jpred4/heatmap.shtml

• Global overview
  – Statistics per day for the last few months
  – Statistics per month during JPred existence
  – URL: http://www.compbio.dundee.ac.uk/jpred4/stats.shtml
Examples: “Live”

- **4 monitors:**
  - Number of running/queuing jobs
  - Average time per job in the past hour
  - Median time per job in the past hour
  - Number of slots (for submission) used currently on the cluster
Examples: “Live”

**LEFT:** one can see large (batch) submission - immediately a lot of job queuing, as JPred limited to 50-70 jobs running in parallel at a time. At the same time it’s clear from the plot that JPred jobs are quite fast (median time ~5 min per job), so, around 500 submissions complete in a matter of a couple of hours. Monitoring - simplifies scheduling.

**RIGHT:** example of mass submission using scheduling (through another new JPred tool: RESTful API). - In the example a user controls submissions (automatically) to not more that 40 jobs, i.e. below number of nodes available to JPred jobs. Therefore any other user who would like to submit a job - would be able to do it without any waiting.
All “Live” Monitors

- All plots are zoom-able in X and Y, all could be saved in SVG, PNG, JPG, PDF
Example: “heat map”

- Usage patterns - allow for even more complex scheduling.
  - For example, from the job submission dynamics in the past month - a user may identify that night hours and weekends are less occupied and plan submissions accordingly.
Overall Statistics

JPred: Monthly Usage Statistics

- Up to 90000 jobs a month
- Over 1.5 million jobs completed
- Users from 179 countries