# Estimating job runtime for CMS analysis jobs

by I Sfiligoi and E Arias-Castro UC San Diego

Intervals represent range around the per-user or per-task mean job runtime.

#### **Per-user statistics**

Avg mean per-user job runtime: 4.25h

$[0.67,\infty]$ 56%	[0.67,1.50] 37%	[0,1.50] 81%
$[0.50,\infty] 66\%$	[0.50,2.00] 56%	[0,2.00] 89%
$[0.33,\infty]$ 76%	[0.33,2.00] 65%	[0,2.00] 89%
$[0.33,\infty]$ 76%	[0.33,3.00] 72%	[0,3.00] 96%

#### Per-task statistics

Avg mean per-task job runtime: 4.0h

$[0.80,\infty]$ 82%	[0.80,1.25] 72%	[0,1.25] 89%
$[0.67,\infty]$ 91%	[0.67,1.25] 81%	[0,1.25] 89%
$[0.67,\infty]$ 91%	[0.67,1.50] 87%	[0,1.50] 95%
$[0.50,\infty]$ 96%	[0.50,1.50] 92%	[0,1.50] 95%
$[0.50,\infty]$ 96%	[0.50,2.00] 95%	[0,2.00] 99%

## Partial per-task statistics – after 1st submitted job finishes

Jobs still alive: 82%

$[0.67,\infty] 83\%$	[0.67,1.25] 67%	[0,1.25] 84%
$[0.50,\infty] 90\%$	[0.50,1.50] 81%	[0,1.50] 90%
$[0.50,\infty]$ 90%	[0.50,2.00] 85%	[0,2.00] 94%

### Partial per-task statistics – after first 10 submitted jobs finish

Jobs still alive: 63%

$[0.67,\infty]$ 85%	[0.67,1.25] 74%	[0,1.25] 88%
$[0.50,\infty]$ 92%	[0.50,1.50] 86%	[0,1.50] 94%
$[0.50,\infty]$ 92%	[0.50,2.00] 90%	[0,2.00] 97%

### Partial per-task statistics – after first 30 submitted jobs finish

Jobs still alive: 50%

$[0.67,\infty]$ 87%	[0.67,1.25] 76%	[0,1.25] 89%
$[0.50,\infty]$ 94%	[0.50,1.50] 88%	[0,1.50] 95%
$[0.50,\infty]$ 94%	[0.50,2.00] 92%	[0,2.00] 98%