

# OSG Scalability Testing

## Job startup rate

### GT2, osg-gw-5.t2.ucsd.edu (Opteron 275), OSG 1.0.0

*Igor Sfiligoi, UCSD*

## Description

This page contains the results of the scalability tests ran against a GT2 CE.

The tested machine was osg-gw-5.t2.ucsd.edu, with an Opteron 275 CPU. OSG CE version 1.0.0.

The testing suite was loadtest\_condor v1\_0\_0. The client had Condor-G v7.3.1. The client was on the same LAN as the CE.

Submitting 5000 jobs with small files, CE has 2.5k slots.

The test was performed in August 2009.

## Results at a glance

Rate	Alone	Combined
Condor-G to Globus submission	~45/min	~33/min
Condor-G noticing jobs starting	~45/min	~33/min
Condor-G noticing jobs terminating	~15/min	~7.5/min
Limiting one	~15/min	~7.5/min

## Detailed results

### Test1 – Sleep 30 mins

#### Command used:

```
loadtest_condor.sh -type grid gt2 osg-gw-5.t2.ucsd.edu:/jobmanager-condor -req  
"(condor_submit=(+SleepSlot' TRUE'))" -end fixed 1800 -jobs 5000 -cluster 100 -in infile 100 -out  
outfile 123
```

## Resources used:

Reached 1.5k running jobs.

Was able to keep 1k running jobs.

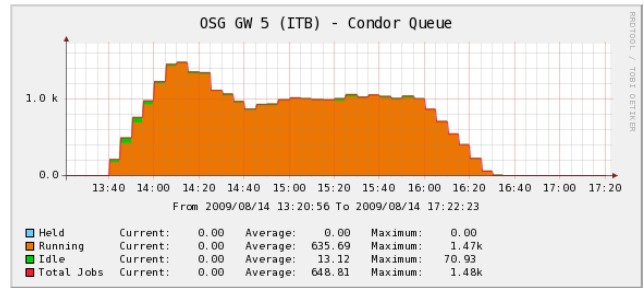


Figure 1: Running jobs on CE - test 1

## Detailed rates:

Hourly					
08/14 13	SB:	5000	GB:	1003	ST: 896 TM: 1
08/14 14	SB:	0	GB:	1998	ST: 2010 TM: 337
08/14 15	SB:	0	GB:	1967	ST: 1991 TM: 441
08/14 16	SB:	0	GB:	32	ST: 104 TM: 858
08/14 17	SB:	0	GB:	0	ST: 0 TM: 888
08/14 18	SB:	0	GB:	0	ST: 0 TM: 882
08/14 19	SB:	0	GB:	0	ST: 0 TM: 894
08/14 20	SB:	0	GB:	0	ST: 0 TM: 700

Over 10 mins					
08/14 13:4	SB:	5000	GB:	519	ST: 188 TM: 1
08/14 13:5	SB:	0	GB:	484	ST: 708 TM: 0
08/14 14:0	SB:	0	GB:	472	ST: 456 TM: 0
08/14 14:1	SB:	0	GB:	305	ST: 367 TM: 46
08/14 14:2	SB:	0	GB:	240	ST: 246 TM: 71
08/14 14:3	SB:	0	GB:	339	ST: 332 TM: 74
08/14 14:4	SB:	0	GB:	320	ST: 276 TM: 75
08/14 14:5	SB:	0	GB:	322	ST: 333 TM: 71
08/14 15:0	SB:	0	GB:	329	ST: 351 TM: 75
08/14 15:1	SB:	0	GB:	310	ST: 329 TM: 73
08/14 15:2	SB:	0	GB:	362	ST: 318 TM: 73
08/14 15:3	SB:	0	GB:	342	ST: 370 TM: 75
08/14 15:4	SB:	0	GB:	285	ST: 334 TM: 70
08/14 15:5	SB:	0	GB:	339	ST: 289 TM: 75
08/14 16:0	SB:	0	GB:	32	ST: 104 TM: 132
08/14 16:1	SB:	0	GB:	0	ST: 0 TM: 150
08/14 16:2	SB:	0	GB:	0	ST: 0 TM: 144
08/14 16:3	SB:	0	GB:	0	ST: 0 TM: 146
08/14 16:4	SB:	0	GB:	0	ST: 0 TM: 144
08/14 16:5	SB:	0	GB:	0	ST: 0 TM: 142
08/14 17:0	SB:	0	GB:	0	ST: 0 TM: 148
08/14 17:1	SB:	0	GB:	0	ST: 0 TM: 150
08/14 17:2	SB:	0	GB:	0	ST: 0 TM: 150
08/14 17:3	SB:	0	GB:	0	ST: 0 TM: 146
08/14 17:4	SB:	0	GB:	0	ST: 0 TM: 144
08/14 17:5	SB:	0	GB:	0	ST: 0 TM: 150
08/14 18:0	SB:	0	GB:	0	ST: 0 TM: 150
08/14 18:1	SB:	0	GB:	0	ST: 0 TM: 150
08/14 18:2	SB:	0	GB:	0	ST: 0 TM: 144
08/14 18:3	SB:	0	GB:	0	ST: 0 TM: 146
08/14 18:4	SB:	0	GB:	0	ST: 0 TM: 141
08/14 18:5	SB:	0	GB:	0	ST: 0 TM: 151
08/14 19:0	SB:	0	GB:	0	ST: 0 TM: 150
08/14 19:1	SB:	0	GB:	0	ST: 0 TM: 144
08/14 19:2	SB:	0	GB:	0	ST: 0 TM: 150
08/14 19:3	SB:	0	GB:	0	ST: 0 TM: 150
08/14 19:4	SB:	0	GB:	0	ST: 0 TM: 150
08/14 19:5	SB:	0	GB:	0	ST: 0 TM: 150
08/14 20:0	SB:	0	GB:	0	ST: 0 TM: 151
08/14 20:1	SB:	0	GB:	0	ST: 0 TM: 150
08/14 20:2	SB:	0	GB:	0	ST: 0 TM: 150
08/14 20:3	SB:	0	GB:	0	ST: 0 TM: 145
08/14 20:4	SB:	0	GB:	0	ST: 0 TM: 104

## Test 2 – Sleep 30s

### Command used:

```
loadtest_condor.sh -type grid gt2 osg-gw-5.t2.ucsd.edu:/jobmanager-condor -req  
"(condor_submit=(+SleepSlot 'TRUE'))" -end fixed 30 -jobs 5000 -cluster 100 -in infle 100 -out outfile  
123
```

### Resources used:

Reached 40 running jobs.  
Was able to keep 20 running jobs.

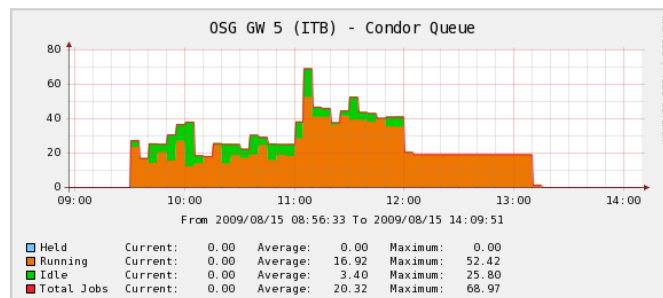


Figure 2: Running jobs on CE - test 2

### Detailed rates:

Hourly				
08/15 09	SB: 5000	GB: 1030	ST: 953	TM: 182
08/15 10	SB: 0	GB: 1933	ST: 1975	TM: 440
08/15 11	SB: 0	GB: 2028	ST: 2023	TM: 432
08/15 12	SB: 0	GB: 9	ST: 50	TM: 855
08/15 13	SB: 0	GB: 0	ST: 0	TM: 881
08/15 14	SB: 0	GB: 0	ST: 0	TM: 884
08/15 15	SB: 0	GB: 0	ST: 0	TM: 890
08/15 16	SB: 0	GB: 0	ST: 0	TM: 437

Over 10 mins				
08/15 09:3	SB: 5000	GB: 372	ST: 297	TM: 36
08/15 09:4	SB: 0	GB: 329	ST: 319	TM: 72
08/15 09:5	SB: 0	GB: 329	ST: 337	TM: 74
08/15 10:0	SB: 0	GB: 326	ST: 331	TM: 75
08/15 10:1	SB: 0	GB: 335	ST: 335	TM: 75
08/15 10:2	SB: 0	GB: 319	ST: 325	TM: 71
08/15 10:3	SB: 0	GB: 323	ST: 314	TM: 76
08/15 10:4	SB: 0	GB: 339	ST: 374	TM: 70
08/15 10:5	SB: 0	GB: 291	ST: 296	TM: 73
08/15 11:0	SB: 0	GB: 338	ST: 303	TM: 73
08/15 11:1	SB: 0	GB: 340	ST: 374	TM: 73
08/15 11:2	SB: 0	GB: 309	ST: 306	TM: 75
08/15 11:3	SB: 0	GB: 339	ST: 338	TM: 70
08/15 11:4	SB: 0	GB: 354	ST: 318	TM: 71
08/15 11:5	SB: 0	GB: 348	ST: 384	TM: 70
08/15 12:0	SB: 0	GB: 9	ST: 50	TM: 138
08/15 12:1	SB: 0	GB: 0	ST: 0	TM: 147
08/15 12:2	SB: 0	GB: 0	ST: 0	TM: 140
08/15 12:3	SB: 0	GB: 0	ST: 0	TM: 143
08/15 12:4	SB: 0	GB: 0	ST: 0	TM: 147
08/15 12:5	SB: 0	GB: 0	ST: 0	TM: 140
08/15 13:0	SB: 0	GB: 0	ST: 0	TM: 150
08/15 13:1	SB: 0	GB: 0	ST: 0	TM: 141
08/15 13:2	SB: 0	GB: 0	ST: 0	TM: 150
08/15 13:3	SB: 0	GB: 0	ST: 0	TM: 140
08/15 13:4	SB: 0	GB: 0	ST: 0	TM: 150
08/15 13:5	SB: 0	GB: 0	ST: 0	TM: 150
08/15 14:0	SB: 0	GB: 0	ST: 0	TM: 144
08/15 14:1	SB: 0	GB: 0	ST: 0	TM: 146
08/15 14:2	SB: 0	GB: 0	ST: 0	TM: 150
08/15 14:3	SB: 0	GB: 0	ST: 0	TM: 150
08/15 14:4	SB: 0	GB: 0	ST: 0	TM: 144
08/15 14:5	SB: 0	GB: 0	ST: 0	TM: 150
08/15 15:0	SB: 0	GB: 0	ST: 0	TM: 148
08/15 15:1	SB: 0	GB: 0	ST: 0	TM: 150
08/15 15:2	SB: 0	GB: 0	ST: 0	TM: 150
08/15 15:3	SB: 0	GB: 0	ST: 0	TM: 142

```

08/15 15:4 SB: 0 GB: 0 ST: 0 TM: 150
08/15 15:5 SB: 0 GB: 0 ST: 0 TM: 150
08/15 16:0 SB: 0 GB: 0 ST: 0 TM: 150
08/15 16:1 SB: 0 GB: 0 ST: 0 TM: 150
08/15 16:2 SB: 0 GB: 0 ST: 0 TM: 137

```

## Test 3 – Sleep 3h

### Command used:

```

loadtest_condor.sh -type grid gt2 osg-gw-5.t2.ucsd.edu:/jobmanager-condor -req
"(condor_submit=(+SleepSlot 'TRUE'))" -end fixed 10800 -jobs 5000 -cluster 100 -in infile 100 -out
outfile 123

```

### Resources used:

Reached 2.5 running jobs.  
Was able to keep 2.5k running jobs.

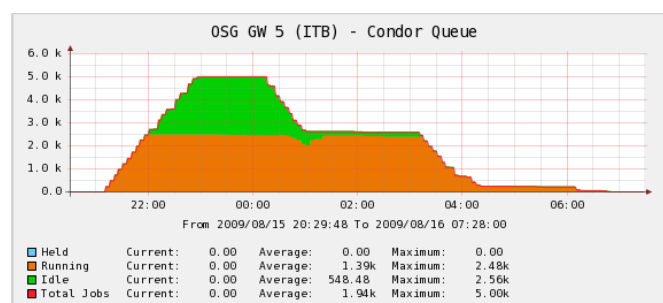


Figure 3: Running jobs on CE - test 3

### Detailed rates:

Hourly					Over 10 mins				
08/15 21 SB: 5000 GB: 2482 ST: 2372 TM: 1	08/15 21:1 SB: 5000 GB: 508 ST: 341 TM: 1								
08/15 22 SB: 0 GB: 2518 ST: 125 TM: 0	08/15 21:2 SB: 0 GB: 486 ST: 537 TM: 0								
08/15 23 SB: 0 GB: 0 ST: 8 TM: 0	08/15 21:3 SB: 0 GB: 475 ST: 486 TM: 0								
08/16 00 SB: 0 GB: 0 ST: 1882 TM: 665	08/15 21:4 SB: 0 GB: 542 ST: 478 TM: 0								
08/16 01 SB: 0 GB: 0 ST: 434 TM: 879	08/15 21:5 SB: 0 GB: 471 ST: 530 TM: 0								
08/16 02 SB: 0 GB: 0 ST: 5 TM: 869	08/15 22:0 SB: 0 GB: 467 ST: 112 TM: 0								
08/16 03 SB: 0 GB: 0 ST: 175 TM: 670	08/15 22:1 SB: 0 GB: 432 ST: 0 TM: 0								
08/16 04 SB: 0 GB: 0 ST: 0 TM: 871	08/15 22:2 SB: 0 GB: 459 ST: 0 TM: 0								
08/16 05 SB: 0 GB: 0 ST: 0 TM: 839	08/15 22:3 SB: 0 GB: 450 ST: 1 TM: 0								
08/16 06 SB: 0 GB: 0 ST: 0 TM: 207	08/15 22:4 SB: 0 GB: 422 ST: 0 TM: 0								
	08/15 22:5 SB: 0 GB: 288 ST: 12 TM: 0								
	08/15 23:0 SB: 0 GB: 0 ST: 4 TM: 0								
	08/15 23:1 SB: 0 GB: 0 ST: 4 TM: 0								
	08/16 00:1 SB: 0 GB: 0 ST: 274 TM: 86								
	08/16 00:2 SB: 0 GB: 0 ST: 495 TM: 144								
	08/16 00:3 SB: 0 GB: 0 ST: 433 TM: 144								
	08/16 00:4 SB: 0 GB: 0 ST: 429 TM: 141								
	08/16 00:5 SB: 0 GB: 0 ST: 251 TM: 150								
	08/16 01:0 SB: 0 GB: 0 ST: 0 TM: 145								
	08/16 01:1 SB: 0 GB: 0 ST: 290 TM: 147								
	08/16 01:2 SB: 0 GB: 0 ST: 143 TM: 143								
	08/16 01:3 SB: 0 GB: 0 ST: 1 TM: 147								
	08/16 01:4 SB: 0 GB: 0 ST: 0 TM: 150								
	08/16 01:5 SB: 0 GB: 0 ST: 0 TM: 147								
	08/16 02:0 SB: 0 GB: 0 ST: 5 TM: 143								
	08/16 02:1 SB: 0 GB: 0 ST: 0 TM: 150								
	08/16 02:2 SB: 0 GB: 0 ST: 0 TM: 150								
	08/16 02:3 SB: 0 GB: 0 ST: 0 TM: 145								
	08/16 02:4 SB: 0 GB: 0 ST: 0 TM: 149								
	08/16 02:5 SB: 0 GB: 0 ST: 0 TM: 132								

08/16 03:1 SB:	0 GB:	0 ST:	136 TM:	80
08/16 03:2 SB:	0 GB:	0 ST:	0 TM:	150
08/16 03:3 SB:	0 GB:	0 ST:	0 TM:	150
08/16 03:4 SB:	0 GB:	0 ST:	1 TM:	140
08/16 03:5 SB:	0 GB:	0 ST:	38 TM:	150
08/16 04:0 SB:	0 GB:	0 ST:	0 TM:	150
08/16 04:1 SB:	0 GB:	0 ST:	0 TM:	140
08/16 04:2 SB:	0 GB:	0 ST:	0 TM:	145
08/16 04:3 SB:	0 GB:	0 ST:	0 TM:	146
08/16 04:4 SB:	0 GB:	0 ST:	0 TM:	145
08/16 04:5 SB:	0 GB:	0 ST:	0 TM:	145
08/16 05:0 SB:	0 GB:	0 ST:	0 TM:	150
08/16 05:1 SB:	0 GB:	0 ST:	0 TM:	150
08/16 05:2 SB:	0 GB:	0 ST:	0 TM:	140
08/16 05:3 SB:	0 GB:	0 ST:	0 TM:	150
08/16 05:4 SB:	0 GB:	0 ST:	0 TM:	150
08/16 05:5 SB:	0 GB:	0 ST:	0 TM:	99
08/16 06:1 SB:	0 GB:	0 ST:	0 TM:	90
08/16 06:2 SB:	0 GB:	0 ST:	0 TM:	73
08/16 06:4 SB:	0 GB:	0 ST:	0 TM:	5
08/16 06:5 SB:	0 GB:	0 ST:	0 TM:	39