

OSG Scalability Testing

Job startup rate

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

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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 at FNAL (70ms network RTT).

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	~39/min	~25/min
Condor-G noticing jobs starting	~43/min	~25/min
Condor-G noticing jobs terminating	~14/min	~6.9/min
Limiting one	~14/min	~6.9/min

Detailed results

Test 1 – 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 20 running jobs.

Was able to keep 20 running jobs.

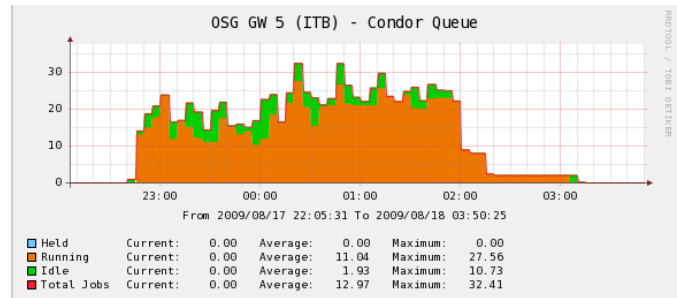


Figure 1: Running jobs on CE - test 1

Detailed rates:

Hourly

08/18 00	SB: 5000	GB: 424	ST: 386	TM: 76
08/18 01	SB: 0	GB: 1483	ST: 1472	TM: 412
08/18 02	SB: 0	GB: 1519	ST: 1539	TM: 416
08/18 03	SB: 0	GB: 1522	ST: 1505	TM: 415
08/18 04	SB: 0	GB: 52	ST: 99	TM: 812
08/18 05	SB: 0	GB: 0	ST: 0	TM: 851
08/18 06	SB: 0	GB: 0	ST: 0	TM: 836
08/18 07	SB: 0	GB: 0	ST: 0	TM: 835
08/18 08	SB: 0	GB: 0	ST: 0	TM: 348

Over 10 mins

08/18 00:4	SB: 3500	GB: 177	ST: 91	TM: 11
08/18 00:5	SB: 1500	GB: 247	ST: 295	TM: 65
08/18 01:0	SB: 0	GB: 244	ST: 248	TM: 70
08/18 01:1	SB: 0	GB: 234	ST: 234	TM: 66
08/18 01:2	SB: 0	GB: 253	ST: 248	TM: 69
08/18 01:3	SB: 0	GB: 244	ST: 245	TM: 70
08/18 01:4	SB: 0	GB: 258	ST: 239	TM: 66
08/18 01:5	SB: 0	GB: 250	ST: 258	TM: 71
08/18 02:0	SB: 0	GB: 251	ST: 239	TM: 70
08/18 02:1	SB: 0	GB: 251	ST: 250	TM: 66
08/18 02:2	SB: 0	GB: 264	ST: 269	TM: 70
08/18 02:3	SB: 0	GB: 258	ST: 259	TM: 71
08/18 02:4	SB: 0	GB: 266	ST: 287	TM: 69
08/18 02:5	SB: 0	GB: 229	ST: 235	TM: 70
08/18 03:0	SB: 0	GB: 258	ST: 257	TM: 70
08/18 03:1	SB: 0	GB: 257	ST: 255	TM: 69
08/18 03:2	SB: 0	GB: 265	ST: 267	TM: 70
08/18 03:3	SB: 0	GB: 250	ST: 252	TM: 69
08/18 03:4	SB: 0	GB: 243	ST: 220	TM: 67
08/18 03:5	SB: 0	GB: 249	ST: 254	TM: 70
08/18 04:0	SB: 0	GB: 52	ST: 98	TM: 120
08/18 04:1	SB: 0	GB: 0	ST: 0	TM: 137
08/18 04:2	SB: 0	GB: 0	ST: 1	TM: 138
08/18 04:3	SB: 0	GB: 0	ST: 0	TM: 140
08/18 04:4	SB: 0	GB: 0	ST: 0	TM: 137
08/18 04:5	SB: 0	GB: 0	ST: 0	TM: 140
08/18 05:0	SB: 0	GB: 0	ST: 0	TM: 144
08/18 05:1	SB: 0	GB: 0	ST: 0	TM: 144
08/18 05:2	SB: 0	GB: 0	ST: 0	TM: 143
08/18 05:3	SB: 0	GB: 0	ST: 0	TM: 139
08/18 05:4	SB: 0	GB: 0	ST: 0	TM: 137
08/18 05:5	SB: 0	GB: 0	ST: 0	TM: 144
08/18 06:0	SB: 0	GB: 0	ST: 0	TM: 145
08/18 06:1	SB: 0	GB: 0	ST: 0	TM: 141
08/18 06:2	SB: 0	GB: 0	ST: 0	TM: 140
08/18 06:3	SB: 0	GB: 0	ST: 0	TM: 133
08/18 06:4	SB: 0	GB: 0	ST: 0	TM: 140
08/18 06:5	SB: 0	GB: 0	ST: 0	TM: 137
08/18 07:0	SB: 0	GB: 0	ST: 0	TM: 138
08/18 07:1	SB: 0	GB: 0	ST: 0	TM: 138
08/18 07:2	SB: 0	GB: 0	ST: 0	TM: 142
08/18 07:3	SB: 0	GB: 0	ST: 0	TM: 135
08/18 07:4	SB: 0	GB: 0	ST: 0	TM: 144
08/18 07:5	SB: 0	GB: 0	ST: 0	TM: 138
08/18 08:0	SB: 0	GB: 0	ST: 0	TM: 143
08/18 08:1	SB: 0	GB: 0	ST: 0	TM: 142
08/18 08:2	SB: 0	GB: 0	ST: 0	TM: 63

Test 2 – 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.

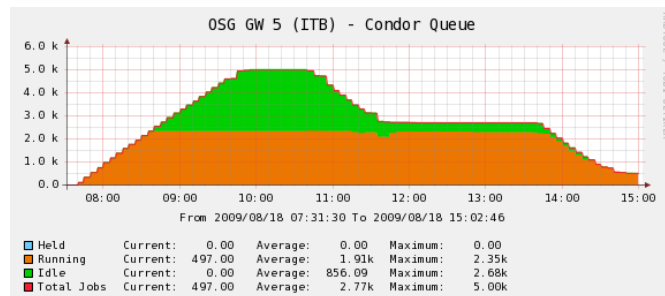


Figure 2: Running jobs on CE - test 2

Detailed rates:

Hourly					Over 10 mins												
08/18 09	SB:	5000	GB:	767	ST:	679	TM:	1	08/18 09:4	SB:	4711	GB:	346	ST:	191	TM:	1
08/18 10	SB:	0	GB:	2369	ST:	1646	TM:	0	08/18 09:5	SB:	289	GB:	421	ST:	488	TM:	0
08/18 11	SB:	0	GB:	1864	ST:	13	TM:	0	08/18 10:0	SB:	0	GB:	417	ST:	434	TM:	0
08/18 12	SB:	0	GB:	0	ST:	619	TM:	163	08/18 10:1	SB:	0	GB:	422	ST:	411	TM:	0
08/18 13	SB:	0	GB:	0	ST:	1647	TM:	822	08/18 10:2	SB:	0	GB:	350	ST:	359	TM:	0
08/18 14	SB:	0	GB:	0	ST:	13	TM:	844	08/18 10:3	SB:	0	GB:	390	ST:	377	TM:	0
08/18 15	SB:	0	GB:	0	ST:	288	TM:	661	08/18 10:4	SB:	0	GB:	395	ST:	65	TM:	0
08/18 16	SB:	0	GB:	0	ST:	96	TM:	852	08/18 10:5	SB:	0	GB:	395	ST:	0	TM:	0
08/18 17	SB:	0	GB:	0	ST:	0	TM:	82	08/18 11:0	SB:	0	GB:	348	ST:	13	TM:	0
									08/18 11:1	SB:	0	GB:	363	ST:	0	TM:	0
									08/18 11:2	SB:	0	GB:	391	ST:	0	TM:	0
									08/18 11:3	SB:	0	GB:	386	ST:	0	TM:	0
									08/18 11:4	SB:	0	GB:	354	ST:	0	TM:	0
									08/18 11:5	SB:	0	GB:	22	ST:	0	TM:	0
									08/18 12:4	SB:	0	GB:	0	ST:	173	TM:	31
									08/18 12:5	SB:	0	GB:	0	ST:	446	TM:	132
									08/18 13:0	SB:	0	GB:	0	ST:	428	TM:	134
									08/18 13:1	SB:	0	GB:	0	ST:	440	TM:	137
									08/18 13:2	SB:	0	GB:	0	ST:	297	TM:	136
									08/18 13:3	SB:	0	GB:	0	ST:	225	TM:	139
									08/18 13:4	SB:	0	GB:	0	ST:	217	TM:	137
									08/18 13:5	SB:	0	GB:	0	ST:	40	TM:	139
									08/18 14:0	SB:	0	GB:	0	ST:	11	TM:	140
									08/18 14:1	SB:	0	GB:	0	ST:	1	TM:	140
									08/18 14:2	SB:	0	GB:	0	ST:	0	TM:	141
									08/18 14:3	SB:	0	GB:	0	ST:	1	TM:	140
									08/18 14:4	SB:	0	GB:	0	ST:	0	TM:	140
									08/18 14:5	SB:	0	GB:	0	ST:	0	TM:	143
									08/18 15:0	SB:	0	GB:	0	ST:	0	TM:	143
									08/18 15:1	SB:	0	GB:	0	ST:	0	TM:	141
									08/18 15:2	SB:	0	GB:	0	ST:	0	TM:	142
									08/18 15:3	SB:	0	GB:	0	ST:	0	TM:	50
									08/18 15:4	SB:	0	GB:	0	ST:	156	TM:	42
									08/18 15:5	SB:	0	GB:	0	ST:	132	TM:	143
									08/18 16:0	SB:	0	GB:	0	ST:	0	TM:	140
									08/18 16:1	SB:	0	GB:	0	ST:	0	TM:	140
									08/18 16:2	SB:	0	GB:	0	ST:	96	TM:	144

08/18 16:3 SB:	0 GB:	0 ST:	0 TM:	142
08/18 16:4 SB:	0 GB:	0 ST:	0 TM:	144
08/18 16:5 SB:	0 GB:	0 ST:	0 TM:	142
08/18 17:0 SB:	0 GB:	0 ST:	0 TM:	84