## Elasticity benchmark

In order to benchmark the elasticity of OpenShift enterprise 1.2, we have created a scalable Java EE application without database. This statefull application has been deployed on small gears with scaling activated. The initial gear consists of a HAProxy 1.4 and JBoss 6 cartridge. HTTP sessions store 10 Kbytes thru 5 attributes (String). Sessions are released after 7 requests.

The experiments show that, even though the load is constant, the auto-scaling performs adding/removing of additional JBoss cartridges, i.e. the system adds new gear, that are removed after few minutes and loops again..

### 60 request/s results

Hits/s results on 15 second slicing:



Response time expressed by the median of 15-second slices:



Auto-scaling operations for benchmark application (Scaling: x1 (minimum: 1, maximum: available) on small gears):



Scale events analysis:



Focus on the 300s-900s period:



Response distribution:

|  |  |
| --- | --- |
| First part of the period including 2 scale downs | Part of the period with only one gear |
|  |  |
| 93% of response times are closed to 30 millisecondes despite 30 seconds results during the scale down (no throughput during 30 seconds) | With only one gear, the response times are 10 times moreAvec le seul gear initial, les temps de réponse sont un ordre de grandeur supérieur à ceux enregistrés avec 2 ou 3 gears. La 1ère classe des temps de 30 millisecondes ne contient plus que 38% des mesures. Cette distribution conduit à une consommation théorique de 22 connexions simultanées en moyenne. |

### 75 requests/s results











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| --- | --- |
| With only one gear | Second part of thge period including 2 scale up |
|  |  |