

Running H-Store

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March 5, 2012



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Site Configuration Parameters

- **site.memory** – JVM Heap Size
- **site.cpu_affinity** – Whether partitions have exclusive access to cores.

<http://bit.ly/Ac5l96>

Client Configuration Parameters

- **client.scalefactor** – The size of the database (<1 smaller, >1 bigger)
- **client.host** – Comma separated list of hosts (must have passwordless SSH)
- **client.count** – # of client hosts
- **client.duration** – How long to run benchmark.

<http://bit.ly/yB8Rhm>

Client Configuration Parameters

- **client.processesperclient** – threads/client
- **client.txnrate** – Submission rate
- **client.blocking** – Whether threads block after sending request to cluster.
- **client.blocking_concurrent** – How many requests before client blocks.

<http://bit.ly/yB8Rhm>

Debugging Parameters

- **site.status_show_*** – Include extra information in HStoreSite logs. Slows down execution speed.
- File logging enabled by changing options in **log4j.properties** to DEBUG

Configuration Files

- Define parameters in **default.properties**
 - *See website for full listing of available options*
- Can override parameters at start-up

```
$ ant hstore-benchmark -Dproject=tpcc \  
-Dsite.memory=4096 \  
-Dclient.txnrate=1000
```

<http://bit.ly/xPH1uU>

Configuration Files

- Set **conf** argument to use a different configuration file.

```
$ ant hstore-benchmark -Dproject=tpcc \  
-Dconf=/path/to/hstore.conf
```

Environment Setup

- Intel Xeon E5430
 - *2 Sockets / 8 Cores*
 - *2.66 GHz*
 - *16 GB RAM*
- Site: henrico.cs.brown.edu
- Client: ironman.cs.brown.edu

Cluster Configuration

- One site, four partitions
 - *All ids must start with zero.*

```
$ ant hstore-prepare -Dproject=tpcc \  
-Dhosts="henrico:0:0-3"
```

<http://bit.ly/yXJsMS>

Benchmark Execution

- One client, 50 threads per client.
 - *Warm-up for 20 seconds, run for 60 seconds.*

```
$ ant hstore-benchmark -Dproject=tpcc \  
-Dclient.host=ironman \  
-Dclient.processesesperclient=50 \  
-Dclient.warmup=20000 \  
-Dclient.duration=60000
```

Sample Numbers

- **TPC-C:** 9,639.05 txn/s
- **TM1:** 38,927.28 txn/s
- **SEATS:** 10,636.49 txn/s
- **Bingo:** 24,818.48 txn/s