

## M2.10 – Test version of distributed Scratchpad server

### Status report

A test version of a mirror of the main Scratchpad server (Quartz) has been developed. This test server uses the same operating system and software as Quartz, enabling it to be quickly and easily configured for use. The test server is running as a virtual machine on S.D.Rycroft's desktop development machine. This unfortunately means that it is not accessible all the time, or from outside the Natural History Museum's network. Implementing this test server has enabled us to develop a script which will enable us to automate much of the process of creating a Scratchpad mirror.

Three key technologies are used to ensure that the files and data are kept up-to-date with Quartz, and that the servers are easy to maintain. The technologies are:

**rsync.** rsync is a software application for Unix and Windows systems which synchronizes files and directories from one location to another while minimizing data transfer using delta encoding when appropriate.<sup>1</sup> This means that we are able to ensure that we are able to update the files as frequently as once an hour, ensuring that if Quartz were to become unavailable that, most likely, all files would be present on the mirror.

**MySQL replication.** Replication enables data from one MySQL database server (the master) to be replicated to one or more MySQL database servers (the slaves). Replication is asynchronous - slaves need not be connected permanently to receive updates from the master.<sup>2</sup> This means that data is present on a mirror, as soon as it is present on the master. The master in our case would be Quartz.

**Ægir.** The Ægir hosting system allows developers and site administrators to automate many of the common tasks associated with deploying and managing large websites. Ægir makes it easy to install, upgrade, deploy, and backup an entire network of Drupal sites.<sup>3</sup> Ægir will hopefully allow us to create a web of masters and mirrors, with each server in the web acting as the master of a number of sites, and being a mirror for all of the sites that it is not a master of. Further investigation will be carried out on this as part of the ViBRANT deliverable “D2.1 – Distributing servers”<sup>4</sup>.

The only concern we currently have with our system, is the MySQL replication. We will need to test how well it works when there is significant distance between the master server (Quartz in London for example) and the mirror (Mirror in Berlin). This will also be covered as part of “D2.1 – Distributing servers”.

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1 <http://en.wikipedia.org/wiki/Rsync>

2 <http://dev.mysql.com/doc/refman/5.0/en/replication.html>

3 <http://www.aegirproject.org/>

4 <http://vbrant.eu/content/d21-distributing-servers>