

Performance and security enhancements on the Blaise IS standard stylesheet

Arnaud Wijnant, Edwin de Vet – CentERdata, Tilburg University, The Netherlands

CentERdata has several years of experience in administering Blaise surveys over the Internet. In 2010 we migrated to Blaise IS, the standard CAWI server included in the Blaise installation.

The Blaise IS package consists of 3 parts that cooperate to fulfill the task of hosting a web questionnaire. These parts are the web server which creates the pages for the respondents, the data server that manages the answers given by the respondents and the rules server that applies the rules defined in the Blaise questionnaire. They can be replicated on several servers to increase the capacity of a questionnaire.

For some surveys that contain large tables and groupings of questions we found that the web server component required a high amount of system resources per respondent. This was mainly caused by the transformation of the XML output of the questionnaire engine to the HTML output of the web server. This transformation is done via a XSLT stylesheet that is shipped in the Blaise installation. We customized this stylesheet to obtain the look and feel we wanted, but the stylesheet contained a lot of functionality and overhead that we do not need. To resolve this issue, we developed a smaller and simpler stylesheet from scratch. This stylesheet contains only the needed functionality, is easier to maintain and produces simpler HTML output. Load tests show that we can serve more respondents per server with our self created stylesheet.

We also implemented extra security features in Blaise IS. In our setup, respondents provide the primary key as a KeyValue parameter (either GET or POST) at the start of the interview. We developed a simple mechanism to verify the identity of the respondent using a hash value based on this KeyValue.