Multiprocessor CloudBrowser

Xiaozhong Pan *Godmar Back*
Department of Computer Science
Virginia Tech
bladepan@cs.vt.edu gback@cs.vt.edu

Abstract

CloudBrowser [7] is a server centric web framework that simplifies development of web applications. CloudBrowser eliminates the need to write client/server communication code and naturally preserves presentation state in between requests. Previous work [7] has shown that CloudBrowser is capable of supporting hundreds of clients using one processor. However, as more clients come in, the latency for each client would reach to a point that the interaction experience is unbearable for everyone. Besides, keeping CloudBrowser running on a single processor has other drawbacks, like one cpu draining virtual browser slows down the performance of others. To overcome these problems, we extend CloudBrowser to make it support multiple processes and multiple hosts. Evaluation shows that the new implementation scales linearly up to X servers.

1 Introduction

1.1 The architecture of the original CloudBrowser

The user's browser will download the client engine written in javascript. The client engine then connect to the server and fetch DOM elements in a virtual browser will connect to a virtual browser in server side and fetch DOM elements from the

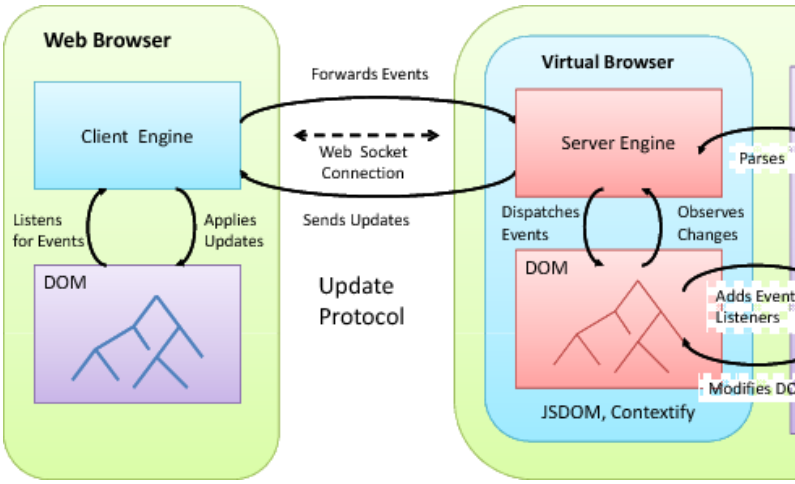

Figure 1: Single Process CloudBrowser Architecture Overview

2 Motivation

References

[1] MCDANIEL, B., AND BACK, G. The cloudbrowser web application framework. In *Proceedings of the 3rd annual conference on Systems, programming, and applications: software for humanity* (2012), ACM, pp. 141–156.