A Fresh Look at the Design and Implementation of Communication Paradigms

Robbert van Renesse
Cornell University, Ithaca, NY, USA

Abstract

Datacenter applications consist of many communicating components and evolve organically as requirements develop over time. In this talk I will present two projects that try to support such organic growth. The first project, Escher, recognizes that components of a distributed systems may themselves be distributed systems. Escher introduces a communication abstraction that hides the internals of a distributed component, and in particular how to communicate with it, from other components. Using Escher, a replicated server can invoke another replicated server without either server having to even know that the servers are replicated. The second project, Scalog, presents a datacenter scale totally ordered logging service. Logs are increasingly a central component in many datacenter applications, but log configurations can lead to significant hiccups in the performance of those applications. Scalog has seamless reconfiguration operations that allow it to scale up and down without any downtime.

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