Towards Robust Distributed Systems

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Current distributed systems, even the ones that work, tend to be very fragile: they are hard to keep up, hard to manage, hard to grow, hard to evolve, and hard to program. In this talk, I look at several issues in an attempt to clean up the way we think about these systems. These issues include the fault model, high availability, graceful degradation, data consistency, evolution, composition, and autonomy.

These are not (yet) provable principles, but merely ways to think about the issues that simplify design in practice. They draw on experience at Berkeley and with giant-scale systems built at Inktomi, including the system that handles 50% of all web searches.