Abstract: Although we've been building distributed systems for decades, it remains remarkably difficult to get them right. Distributed software is hard to design and the tools available to developers have lagged far behind the options for building and debugging non-distributed programs targeting desktop environments. At Cornell, we're trying to change this dynamic. The first part of this talk will describe "Live Distributed Objects", a new and remarkably easy way to create distributed applications, with little or no programming required (in fact, the talk will include a demo of how this works). Supporting these kinds of objects forced us to confront a number of scalability, security and performance questions not addressed by prior research on distributed computing platforms. The second part will look at Cornell's Quicksilver system and the approach it uses to solve these problems.

This research is joint with PhD candidate Krzys Ostrowski (the "real" leader on the effort) and with Danny Dolev.