

# The Challenge of Deployment

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## ABSTRACT

Deploying a low-cost network in the field is not just a technological challenge, but an exercise in the introduction of technology in a particular social, cultural, and economic context. As designers, we are all too focussed on the technical aspects of the problem, but we ignore these other contexts at our peril, because these ultimately determine whether the technical solution will be adopted. To have any hope of successful adoption, the solution needs to be tailored to the needs of the ultimate users.

In this talk, I will first describe the ‘SoftBridge stack’ model for technology. This stack extends the traditional network layers to the media, synchronization, user interface, and people layers and provides a useful approach to motivate networking researchers to think about the context of a given technological solution.

Drawing on my many failures, I will then motivate an iterative process for the design, implementation, and deployment of real-world networks. I will reinforce ideas by sketching the history of KioskNet, a low-cost network for developing regions that I worked on from 2005 to 2009.

## Categories and Subject Descriptors

C.2.1 [Network Architecture and Design]: Store and forward networks

## General Terms

Internet

## Keywords

Challenged networks

## Biography

S. Keshav is a Professor, ACM Fellow, Canada Research Chair, and Cisco Research Chair at the School of Computer Science, University of Waterloo, Canada. He received a Ph.D. in Computer Science as well as the Sakrisson Award from the University of California, Berkeley in 1991. After five years as a researcher at AT&T Bell Laboratories, he became an Associate Professor at Cornell University in 1996 and was an Alfred Sloan Fellow from 1997 to 1999. He was the Editor of ACM SIGCOMM Computer Communication Review from 2008 to 2012 and is currently the Chair of ACM SIGCOMM. He is a co-inventor on 25 US patents and the author of two graduate textbooks.

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