

# The VoIP Volcano

## Sustainable Strategies for a Disruptive Technology

A Workshop Organized By:  
Center for Research on Telecommunications Policy  
< [groups.haas.berkeley.edu/imio/crtp/](http://groups.haas.berkeley.edu/imio/crtp/) >

1 October 2004  
Wells Fargo Room , Haas Business School  
University of California @ Berkeley

In Cooperation With:  
CENTER FOR TELECOMMUNICATIONS & DIGITAL CONVERGENCE  
LESTER CENTER FOR ENTREPRENEURSHIP & INNOVATION  
INSTITUTE OF BUSINESS & ECONOMIC RESEARCH

### Theme

After years creeping into backbone and corporate networks, Voice over Internet Protocol (VoIP) has burst on the scene as a true “disruptive technology,” capable of delivering mass market communications over the nation’s existing infrastructure at lower cost and with greatly expanded capabilities relative to traditional circuit-switched services. The core objective of this workshop is to identify fundamental technological and economic properties of this technology and draw out their implications for business strategy and technology policy. Steering clear of the knotty issues raised by VoIP for existing state and federal regulatory and tax policies, the workshop will focus on the obstacles and opportunities posed for incumbents and startups, for business and residential users, and for service providers and equipment vendors.

### Program

**7:45-8:30**      **Registration and Continental Breakfast**

**8:30-8:45**      **Opening Remarks**

- Glenn Woroch, Executive Director, CRTP, UC-B
- Michael Katz, Associate Dean, Haas Business School & Director, CTDC, UC-B

**8:45-10:15**      **Technology and Economics of IP Services** [moderator: Prof. John Chuang, SIMS, UCB]

*This session surveys the key technical features of IP telephony—describing its distinctive capabilities as well as its inherent weaknesses—especially service quality, backup powering and security. It will attempt to identify the principal economic properties of the supply of VoIP and the constraints they impose on viable business models of service providers and equipment vendors. Because we believe the ability of VoIP applications to run on distinct physical platforms (fiber, coax, wireless, powerline) will affect its diffusion, we are interested in technical differences across VoIP implementations, and whether one platform has a distinct advantage. Speakers are asked to compare alternative architectures for implementing VoIP (e.g., Skype’s P2P) and to sketch the state of technical standards in this area. They are also asked to speculate on the likely “X” in the “XoIP” of the future as new applications arise, and on the possibility that circuit-switched technologies could close the feature and quality gaps any time in the future.*

- Prof. Ion Stoica, EECS, UC-B and the “i3 Project” [**confirmed**]
- Venky Krishnaswamy, Director, IP Communications Research, Avaya Laboratories [**confirmed**]
- Lucy Sanders, Executive in Residence, ATLAS, University of Colorado at Boulder [**confirmed**]
- Douglas Potts, VP, National Communications Operations, Comcast Corp. [**confirmed**]

**10:15-11:00**      **VoIP Product Demonstration and Coffee Break** [Cisco VoIP equipment + 8x8 VoIP service]

**11:00-12:00**      **The Voice of the VoIP User** [moderator: Prof. Hal Varian, SIMS, UC-B]

*As with any new communications technology, the success of VoIP turns on how quickly it reaches critical mass and on its acceptance across the various consumer segments. This session will discuss the key attractors of VoIP for both business and residential customers as well as impediments to widespread*

*adoption especially quality of service and security. Drawing on cumulative market experience, speakers will report on the deployment patterns of VoIP in the business and mass market segments to date. A key VoIP enabler, broadband is now approaching saturation and could limit VoIP prospects. Alternatively, VoIP could be the application that fuels resurgence in broadband deployment. Whether the mass market penetration of VoIP will escape its miniscule levels turns, in part, on the ability of providers to overcome consumer lock-in to circuit switched technology.*

- Brett Azuma, Executive VP of Research and Strategy, RHK, Inc. [confirmed]
- Dan Miller, Senior Analyst and Founder, OPUS Research [confirmed]

**12:10-1:00 Buffet Lunch on Site**

**1:00-2:20 Viable Business Models for Service Providers** [moderator: Prof. Michael Katz/Glenn Woroch, UCB]

*Making money from VoIP services could prove challenging. The dependence of VoIP on embedded infrastructure but the potential separation of the application from the physical layer alter the economic incentives of service providers. This session will address questions such as: What business models have succeeded so far, and which ones have been rejected in the marketplace? What are the properties of success in these services: target customer segment, pricing structure, channel strategy? What works for incumbent service providers and what works for pure-play startups? Pricing remains a critical variable as the trend is toward flat rate schemes absent the per-minute alternative of traditional voice services. Structure of the viable VoIP enterprise is also up for grabs as carriers experiment with standalone operations and various partnerships. Incumbents face the added challenge of competing with specialized VoIP providers when committed to legacy circuit-switched technology. An important emerging question is whether a “walled garden” model that persists in mobile cellular or online music distribution platforms are more conducive to rapid deployment of VoIP. Will providers attempt to tie CPE to VoIP services or will VoIP realize the dream of cross-platform compatibility? After so many allegedly disruptive communications technologies fell short of their hype, will burned-once-twice-shy carriers place deployment of VoIP on hold?*

- Ron Vidal, Group VP, Emerging Opportunities, Level 3 Communications [confirmed]
- Bryan Martin, CEO, 8x8, Inc. [confirmed]
- Keith Epstein, VP & General Counsel, SBC Data Services [confirmed]
- David Young, Director, Internet & Technology Policy, Verizon Communications [confirmed]

**2:20-2:45 Xlab: A Crystal Ball for Business Decision Making** [moderator: Dr. David Gautschi, Principal and Director of Research, CCG Group]

*Controlled laboratory experiments are offering deeper insights into business decision making processes--including the design and introduction of new services and products. This new empirical tool promises to inform decisions that confront VoIP service providers and equipment vendors. UC-B's Xlab located at the Haas Business School is a leader in research on these techniques.*

- Prof. Teck Ho, Director, Xlab, and Haas Business School, UC-B [confirmed]

**2:45-3:15 Coffee Break**

**3:15-4:30 Dilemmas Facing Equipment Vendors** [moderator: Prof. Dave Messerschmitt, EECS, UC-B]

*Price and functionality of enabling equipment and software are essential to VoIP's commercial viability. This session will hear from equipment vendors as they migrate their R&D and marketing organizations away from circuit-switched business model. Vendors must decide whether to reaffirm their commitment to customers' sunk investment in older technologies, or to lead their customers into the new world of VoIP. They must also resolve tensions that arise when selling equipment to carriers as well as the carriers' business customers. As sales are dependent on developments in the complementary layers of a VoIP network, what options have the companies pursued to foster competition at complementary layers? A compelling feature of VoIP is its basis in open standards for protocols and interfaces. It remains to be seen whether the industry can achieve end-to-end quality of service and still maintain modularity. How will this industry balance the age-old conflict between the economies of standardization and the need for appropriation of profit, especially as the industry continues to move toward open source development?*

- Don Proctor, VP & General Manager, Voice Technology Group, Cisco Systems, Inc. [confirmed]
- Wymond Choy, Vice President, InnoMedia, Inc. [confirmed]

**4:30-6:00 Wine Bar + Small Plates** [Wells Fargo Room, Haas Business School, UC-B]