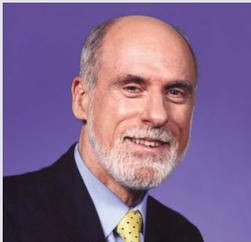


Russell Reynolds Associates' *Conversations on Convergence* features the thoughts and ideas of top decision makers in the world of convergence. We are helping to cut through the hype around this topic by speaking directly with those who are defining the future of this industry. Read them all on our Web site at www.russellreynolds.com.



Conversations on Convergence: No. 1, 2008



Vint Cerf, Chief Internet Evangelist, Google Inc.

Vinton (Vint) Cerf is widely known as one of the founding fathers of the Internet. Co-winner (with Robert Kahn) of ACM's A.M. Turing Award—often called the Nobel Prize for computing—Vint is recognized the world over for his vision as well as for his many contributions to the Internet's architecture and infrastructure.

Q. What is your assessment of the current state of the convergence space?

A. Convergence is a world where media is not carried in any one single way. I feel the transition toward convergence is still underway, and I don't think any specific scenario is likely to emerge as the dominant force.

My team at Google studies user behavior, and we see direct challenges to today's fascination with streaming media. Take the example of

“People now download songs in a second or two and listen to them later.”

today's iPod user: They can now easily download music without having to listen to it in real time. The ability to download and store content and then play it at will alters the way we should think about network infrastructure.

Anytime you can download content at speeds faster than real-time playback, it reduces the need for streaming media. We now have the ability to record, store and play back content on almost any device. So streaming video has challenges to face. We will always have a battle between storage and data rates, and the commoditization of terabytes of data storage will be another blow to the “tyranny” of streaming video.

Q. What about the content itself?

A. I believe that delivery methods are secondary to how content is used. The iPod phenomenon of downloading audio content at lightning-fast speeds to play back later is now bleeding over into the video market, as well, where the delivery method is even more secondary to how the content will eventually be used. I'm quite interested in the ability to combine different data rates with memory. In this scenario, you do not need television in real time, because the time it takes to download the application is faster than the playback time.

“Video-on demand is not streaming because you are in control.”

People are now starting to recognize that content development and content delivery can be separated. Historically, networks have always been purpose built, such as train tracks, wireless infrastructure or landline infrastructure. With the

“We must look harder at separating production from delivery.”

Internet, though, this is not the case. As a result, I believe there will be a much looser coupling between content and its transportation. In fact, I think we will ultimately distinguish between content delivery and content development altogether.



Netflix is an interesting analogy: NetFlix effectively turns the United States Postal Service into a high-speed pipeline. If you compute the bandwidth required to deliver the total content represented by the nearly two million DVDs NetFlix sends and receives per day, the arithmetic is impressive—albeit with a high latency rate.

There are a variety of ways to access video content, and if people are open to watching content on a video cell phone or mobile device, there could very well be a scenario where applications or content could be trickle-loaded during the course of the day, to be watched later at the user's chosen time and place.

Q. What's on the horizon?

A. There are plenty of opportunities for advertising.

Think of the potential for putting advertisements on downloadable videos: While packets do not know or care what they are carrying, computer

software can use this data in a variety of ways. For example, you could be watching a video, and if you are interested in a particular product or item in the video, you could quickly click on it to pause the video and get additional details or even buy it. Of course, this will radically increase the importance of

product placement! This sort of service would be invisible and run in the background: You would be made aware of the opportunity, but not forced to interact with it unless you selected it.

“We are now in a world where you will always be connected unless you purposely make the decision to go offline.”

Q. What complications does your own business face?

A. I worry about the increasingly frequent denial of service attacks and the whispers of a malicious zombie or “bot army” being developed. It makes me fear for the health of the Internet. I wonder if the system can defend itself and how the industry will address such concerns in the future.

Q. What are some of the human capital implications of these changes?

A. I have moved back and forth between the communications world and the infrastructure world for 30 years, so I think I'm in an excellent position to comment upon the changes in the “DNA” of the industry leaders of tomorrow. The Google team, for example, is as smart as any in history. The beauty is that they are all so young; they don't know that some of the things they are attempting to do are impossible. I suppose that just might mean that things that have been unsuccessfully attempted in the past may actually work now.

“Innovation at Google is uninhibited by past history and past failure.”

The young users and employees at Google are far more comfortable with on-line interaction, new platforms, new kinds of entertainment and new habits. This younger generation of professionals is radically different from those in the legacy telecommunications world. There are still challenges to convince people with traditional telco DNA that packet-based platforms will work.

Q. What are the challenges in this evolution?

A. I actually feel we are entering an age of creative innovation, and I'm looking forward to the continuing bursts of invention. If the entire

Internet is enabled with creativity, we'll have an extremely powerful world.

“Open networks enable innovation.”

About Russell Reynolds Associates

Russell Reynolds Associates is the most trusted name in global executive search and assessment. Through our 38 wholly owned offices, the firm's more than 275 professionals conduct senior-level search and assessment assignments in a range of industries for public and private organizations of all sizes. With its one-firm culture, deep knowledge of major industries and unwavering commitment to client service, Russell Reynolds Associates is uniquely qualified to help clients find the best leaders and to advise them on optimizing their talent. The firm's Web site is www.russellreynolds.com.

Our Communications and Convergence Practice

The Russell Reynolds Associates' Communications and Convergence Practice sits at the intersection of dynamic digital content, which is reshaping the way we work and play, and wireless and broadband networks, which keep us connected seamlessly around the globe. We also have significant experience in helping our clients recruit in the managed services and outsourcing areas. The combination of our experience with service providers as well as infrastructure solution providers (who design, build, and deploy their platforms and networks) allows us to work at the forefront of technologies including IPTV, WiMAX, FTTx, IMS, Ethernet, 3G/4G and VoIP. Finally, our success with assisting media and content providers and aggregators to leverage these powerful new technologies positions us at the heart of the convergence movement as the key human capital solutions provider on a global basis.

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