Statement of Van Lindberg

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"Innovation in America: The Role of Technology"

I would like to thank the committee for inviting me here today to talk about innovation in America. I am Van Lindberg, Vice President of Intellectual Property and Associate General Counsel at Rackspace, the Open Cloud Company. I am also a software developer, author, and chairman of the board of the Python Software Foundation, a nonprofit dedicated to advancing the open source programming language Python.

One of the things that struck me as I was preparing for this testimony was the implied dichotomy set up by the structure of these hearings. Last week you heard from witnesses representative of "content creators," about the role of copyright law in fostering innovation. This week we are talking about the role of technology in innovation. This implied dichotomy is interesting because it separates two groups that have more in common than they think.

My message today is that, in today's world, all sorts of individuals and organizations are creating content, including technology companies, independent foundations, and millions of individual users. Technology has enabled a massive wave of innovation and job creation, driven by the spread of knowledge, content and experience from one person to another. Copyrightable content today is not limited to only works of art and literature, movies and music. It also includes all of the software code written by developers who have brought us everything from powerful hand-held computers to digital medical diagnostic tools.

To illustrate, let me tell you two success stories about innovation in America.

Our first story stars Rackspace and NASA. Almost exactly three years ago, Rackspace was looking for scalable technology on which to base our public cloud, which hosts more than 200,000 businesses in 120 countries. At that time there were very few choices, and the choices that existed weren't going to meet our needs. All that the

market offered were closed, proprietary solutions that would cause customers to be locked into the technology of specific vendors. Even Rackspace's own legacy technology was proprietary.

But we had seen how successful the open source movement was, particularly software projects like Linux, Apache, Mozilla Firefox, and Android. We wanted to offer our customers open standards, rapid innovation, and choice. Some farsighted technologists at NASA had the same vision, so we joined forces and created OpenStack, an open source cloud computing system. Rackspace decided to become not just a technology company, but also a content provider. We wrote thousands of lines of code, reams of documentation, and even a couple of books—millions of dollars worth of intellectual property—and made it available for everyone to use.

The results have been astounding. In the past three years, OpenStack has grown so rapidly that it's not only used by NASA but by other operations across the federal government. It is an engine of growth, backed by hundreds of companies worldwide, including technology giants such as Cisco, Dell, HP, IBM, and Red Hat. This one project - OpenStack - is directly responsible for tens of thousands of new American jobs and has driven billions of dollars of growth and investment.

OpenStack is even more astounding in the human dimension. There are over a thousand individual contributors, who have collectively written enough code and documentation that, if it were all printed out, would reach to the moon.

These companies and these people are both technologists and content creators. This massive contribution to innovation is the result not of exclusive and tight control over their copyrighted content, but of the deliberate spreading and dissemination of their efforts.

The second success story stars a nonprofit, the Python Software Foundation. Each year, the foundation puts on a conference where thousands of software enthusiasts get together to learn, to teach, and to work together on projects and businesses. This year we brought in schoolkids for two days of free tutorials that introduced them to the basics of programming.

This was just the opportunity that nine-year-old Havana Wilson of Denver, Colo., needed. After Havana showed interest in building video games, her father Bruce looked around the web for other ways to get her involved. "It was my job to turn her desire into action," Bruce said. Both father and daughter came to the conference to attend the tutorials.

They had an amazing time. Havana left excited and energized to continue on her own. What they didn't expect was the effect of the experience on Bruce. "I was only going to [the conference] to help my daughter," he said, "but came away from the experience seriously motivated to dive into programming."

That is not the end of the story, though. The instructors who created the tutorials decided to make all of their teaching materials available online for others to use at no cost. In the past four months, the Python Software Foundation has supported over a dozen more tutorials using the same material, including presentations in Alaska, California, Colorado, Iowa, North Carolina, Ohio, Texas, Utah — and right here in Washington D.C.

Hundreds of children have had their eyes opened to technology – to innovation – because a network of volunteers, and especially these tutorial authors, decided to share their content as widely as possible.

That brings me back to the subject of this hearing. Copyright is a difficult and important subject. Shared creative expression plays an essential role in our society. Our culture is just the product of our many personal expressions mixed together. The Internet has made it possible for our culture and our society to be enriched in a way unimagined by previous generations.

At Rackspace, we believe in the bargain of copyright. We are on the front lines of the battle against copyright infringers and other online criminals. We employ dedicated teams that take enforcement actions every day under the Digital Millennium Copyright Act as well as our own even stricter Acceptable Use Policy.

From our experience on the front lines, we are wary of regulations that would substitute technological measures for human decision-making. There are many things that computers do well, but the one thing they don't do well, at least for now, is to understand the relationships between people. Computers may be able to learn how to spot a movie, or a song, but they don't understand when someone has granted another person approval to use that copyrighted material. A software program is a lousy substitute for a conversation between humans.

For example, among the companies that we at Rackspace host as customers are a movie studio and a jewelry vendor. I can't tell you how many times we have gotten a takedown notice from the movie studio asking us to take down their own website. Just last week we got a mistaken request from the jewelry vendor to take down the site of one of its authorized resellers. We have gotten complaints asking us to take down the sites of famous museums, displaying pictures of their own collections.

The reason we get these complaints is because they usually don't come from humans – they come from computers. The automated software that creates these notices doesn't understand that these are authorized uses. If there is any change to copyright at all, it needs to be a strengthening of the safe harbors that allow shared expression.

We get other requests to take down material because it is unpopular or unflattering to a particular business or a particular person, such as a highly critical review of a restaurant. These requests are most frequently couched as requests under the

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Digital Millennium Copyright Act. These requests are not really meant to stop copyright infringement. They are attempts to restrict free speech that someone doesn't like.

As you deliberate on these important issues, I ask that you remember that we are almost all content creators now. Postings on Facebook, open course materials, and shared code all add to the wonder, culture, and innovation that is the mark of America throughout the world.

Respectfully submitted,

Van Lindberg