

**Before the
Federal Communications Commission**

In the Matter of)	
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Protecting and Promoting the Open Internet)	GN Docket 14-28
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Reply Comments of Shapeways

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Dear Chairman Wheeler,

I write to you today in support of strong open Internet rules grounded in firm Title II authority. We at Shapeways support an open Internet, and therefore oppose the current proposed rules. We agree with the comments of the startup community, investors, nonprofits, and millions of Americans calling for rules against unreasonable discrimination and access fees under Title II. We disagree with the comments by AT&T, Verizon, and Comcast in favor of the FCC's fast-lane proposal. Most importantly, we urge the FCC to create clear rules, based on Title II of the Communications Act, that prohibit discrimination and paid prioritization on both fixed and mobile connections.

I. Shapeways is the World's Leading 3D Printing Marketplace

Shapeways is the world's leading 3D printing marketplace and community, empowering designers to bring amazing products to life. By giving anyone the ability to quickly and affordably turn ideas from digital designs into real products, Shapeways is fundamentally changing how products are made and by whom.

Through Shapeways, designers gain access to our two 3D printing factories which house the best industrial 3D printing technology, capable of manufacturing products with complex designs in a wide range of high-quality materials. 3D printing turns raw materials into original products, from wedding rings to rocket ships, model trains to iPhone cases, and prototypes to industrial engineering parts. The Shapeways community can sell their products on our

platform, share ideas, and get feedback from creative consumers and other designers around the world.

Headquartered in New York, Shapeways has factories and offices in Eindhoven, Queens, and Seattle with 140 employees spread between the locations. Shapeways is a spin-out of the lifestyle incubator of Royal Philips Electronics, and our investors include Union Square Ventures, Index Ventures, Lux Capital, and Andreessen Horowitz.

While Shapeways enables anyone to bring their products to life, we also empower entrepreneurs: the 18,000 Shapeways shops are each a small business – that's one for every yellow cab in NYC. Shapeways shop owners earned over \$500,000 in profit in 2012 with customers in 113 countries, and that number continues to grow exponentially. Shop owners are truly diverse ranging from teenage hobbyists to engineers with 25+ years experience. With over 40 materials to choose from, innovation sparks unlimited creation, which is reflected by the 100,000 new products uploaded and the 1000 new shops that open *each month*.

Opening a shop is free, designers set their own profit margins, and we charge only a 3.5% processing fee on sales. Our manufacturing margins remain razor thin to ensure we can keep delivering on our promise to enable access to the highest quality technology at the lowest prices. Our growing community of makers, shop owners, and buyers is currently at 400,000, and allows us to constantly lower costs while improving quality. In 2008 when we started, a custom 3D printed iPhone case was \$70. Today it is \$20.

With 3D printing, niche is the new normal – we are truly a long tail business, with every passion being served. Beyond realizing individual needs and energizing fashion design,¹ 3D printing technology is also shaping countless industries from electronics and healthcare to construction and aerospace.

Shapeways' advocacy on this issue is focused on maintaining a platform that supports our shop owners now, and in the future. Shapeways and Shapeways shop owners are successful because there is a single, open Internet. Every shop owner relies on visitors to their store to sell products and flourish. If our site loaded slower, each of those businesses would suffer. Shapeways and our shop owners would suffer under any rule that would allow big companies to pay for better broadband access to customers. We urge the FCC to reclassify broadband as a telecommunications service and regulate it like the utility it is.

II. We Could Have Never Founded this Company Under the FCC's Proposal

Shapeways was the first company to build a bridge connecting high quality 3D printing to the public. The industrial 3D printing machines Shapeways uses were never built to serve the purpose we employ them for and it is only through the vision of our co-founders that we exist.

Shapeways was founded in 2007 by Peter Weijmarshausen, Marleen Vogelaar, and Robert Schouwenburg in the lifestyle incubator of Royal Philips Electronics in Eindhoven, the Netherlands. At the time, 3D printing was

¹ <https://www.shapeways.com/blog/archives/1952-revealing-dita-von-teese-in-a-fully-articulated-3d-printed-gown.html>

prohibitively expensive and used primarily for rapid prototyping, not for creating real, finished products. Many people were using 3D software but were not able to hold their designs in their hands—they even thought it was impossible.

Shapeways.com launched in 2008 with the “crazy idea” to make the impossible possible, and started to 3D print real products, not just prototypes. In 2010, Shapeways spun out of Philips and moved headquarters to New York.

The open Internet helped turn this “crazy idea” into a vibrant, growing company. Shapeways did not have to explain to ISPs why the company was worth starting, why ISP subscribers might like to connect to Shapeways.com, or even what 3D printing was. Instead, Shapeways grew organically as people discovered the site and decided to join the community. It relied on its relationship with creators and 3D printer manufacturers—not Internet service providers—to succeed. Ultimately, Shapeways’ success should be built upon its ability to provide a first class service to its community, not on cutting deals with Internet service providers.

3D printing has the ability to truly disrupt the way we think about products. Way back in the 1800s and before, products were made by hand. Then came the Industrial Revolution which brought us mass manufacturing. Mass manufacturing has given us a lot of really cool products, but they’re all the same. What 3D printing brings on top of mass manufacturing is the ability for an individual to get the exact product that they want and not just what is available: We’re ushering in the age of mass customization.

3D printing enables anyone to turn any design—even incredibly complex ones—into real products at no additional cost, leveraging the scale of traditional manufacturing and the customization of handmade. It enables mass customization, or the ability for anyone to make a product that suits his or her individual needs. For designers, the benefits are revolutionary: time to market goes from months to hours, you can rapidly iterate on designs and improve products with real-time customer feedback, and the start-up costs are near zero as there are no molds and no inventory.

III. The FCC's Proposal Threatens Our Company's Future

Over the past twenty years, American innovators have created countless Internet-based applications, content offerings, and services that are used around the world. These innovations have created enormous value for Internet users, fueled economic growth, and made our Internet companies global leaders. This innovation happened in a world without discrimination. An open Internet has also been a platform for free speech and opportunity for billions of users. Shapeways would not have come to life without the Internet, and the FCC's proposal threatens our future to provide an open platform for independent businesses to flourish, even those with an inventory of one product. The proposal will further harm competition by quelling innovation among small businesses in all sectors by creating financial barriers to entry.

The Internet has facilitated so many disruptive businesses because, at its core, it's the great equalizer. Everyone has the same access; anyone can float

their own “crazy idea.” By creating two-tier access, you sacrifice this core tenet, throttle the spirit of freedom, and ultimately kill the power of wild innovation this nation is founded upon.

Philosophy aside, more practically for Shapeways: even if we could afford to pay for “fast lane” quality of service, these payments would force us to raise our prices, pass the greater burden along to our users and ultimately halt the rapid evolution of 3D printing technology. Which would be a damn shame.

IV. We Do Not Have an Army of Lawyers to Negotiate With or Sue ISPs

The FCC’s “commercial reasonableness” standard provides us no comfort. We have no telecommunications lawyers on staff; we actually have no lawyers on staff at all. We do have access to our VC’s excellent legal counsel, and our legal budget is negligible. We cannot afford to sue the biggest ISPs simply to access our users with service equal to our competitors. Anything less than a bright-line rule would harm us because we just don’t have the resources to battle over presumptions.

The Chairman is proposing a rule that could permit exclusive deals, and Shapeways could likely never afford an exclusive deal for ecommerce sites with our margins and size. We do not want the many shop owners running small businesses who depend on our site to pay higher fees and we want them to have access equal to that of any seller on any other site on the Internet.

We have already expressed strong support for network neutrality and opposition to paid prioritization,² discriminatory exemptions from bandwidth caps, and application-specific technical discrimination.

On behalf of our shop owners and community, Shapeways wants a bright line rule against blocking, application-specific discrimination, and access fees (such as paid prioritization).

We urge the FCC to reclassify broadband as a Title II telecommunications service and regulate it like the utility it is.

Respectfully submitted,

Natalia Krasnodebska

Shapeways Community Manager

² <https://www.shapeways.com/blog/archives/2539-shapeways-supports-net-neutrality-stop-the-slow-lane.html>)