

REALNETWORKS INC

Form 10-K

February 27, 2017

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2016

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 0-23137

RealNetworks, Inc.

(Exact name of registrant as specified in its charter)

Washington 91-1628146

(State of incorporation) (I.R.S. Employer Identification Number)

1501 First Avenue South, Suite 600, Seattle, Washington, 98134

(206) 674-2700

(Address of principal executive offices, zip code, telephone number)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
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Common Stock, Par Value \$0.001 per share	The NASDAQ Stock Market
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Preferred Share Purchase Rights	The NASDAQ Stock Market
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Securities registered pursuant to Section 12(g) of the Act:

None

(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company

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(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the common stock held by non-affiliates of the registrant was \$99 million on June 30, 2016, based on the closing price of the common stock on that date, as reported on the Nasdaq Global Select Market. Shares held by each executive officer and director have been excluded in that such persons may be deemed to be affiliates. In the case of 10% or greater shareholders, we have not deemed such shareholders to be affiliates unless there are facts and circumstances which would indicate that such shareholders exercise any control over our company. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of shares of the registrant's common stock outstanding as of February 24, 2017 was 37,017,924.

DOCUMENTS INCORPORATED BY REFERENCE

The registrant has incorporated by reference the information required by Part III of this Annual Report from its Proxy Statement relating to its 2017 Annual Meeting of Shareholders or an amendment to this Form 10-K, to be filed within 120 days after the end of its fiscal year ended December 31, 2016.

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PART I.

This Annual Report on Form 10-K and the documents incorporated herein by reference contain forward-looking statements that have been made pursuant to the provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current expectations, estimates, and projections about RealNetworks' industry, products, management's beliefs, and certain assumptions made by management. Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates," and similar expressions are intended to identify forward-looking statements. All statements contained in this report that do not relate to matters of historical fact should be considered forward-looking statements. Forward-looking statements include statements with respect to:

- the expected benefits and other consequences of our growth plans, strategic initiatives, and restructurings;
- our expected introduction, and related monetization, of new and enhanced products, services and technologies across our businesses;
- future revenues, operating expenses, income and other taxes, tax benefits, net income (loss) per diluted share available to common shareholders, acquisition costs and related amortization, and other measures of results of operations;
- the effects of our past acquisitions and expectations for future acquisitions and divestitures;
- plans, strategies and expected opportunities for future growth, increased profitability and innovation;
- the expected financial position, performance, growth and profitability of, and investment in, our businesses and the availability of resources;
- the effects of legislation, regulations, administrative proceedings, court rulings, settlement negotiations and other factors that may impact our businesses;
- the continuation and expected nature of certain customer relationships;
- impacts of competition and certain customer relationships on the future financial performance and growth of our businesses;
- our involvement in potential claims, legal proceedings and government investigations, and the potential outcomes and effects of such potential claims, legal proceedings and governmental investigations on our business, prospects, financial condition or results of operations;
- the effects of U.S. and foreign income and other taxes on our business, prospects, financial condition or results of operations; and
- the effect of economic and market conditions on our business, prospects, financial condition or results of operations.

These statements are not guarantees of future performance and actual actions or results may differ materially. These statements are subject to certain risks, uncertainties and assumptions that are difficult to predict, including those noted in the documents incorporated herein by reference. Particular attention should also be paid to the cautionary language in Item 1A entitled "Risk Factors." RealNetworks undertakes no obligation to update publicly any forward-looking statements as a result of new information, future events or otherwise, unless required by law. Readers should, however, carefully review the risk factors included in other reports or documents filed by RealNetworks from time to time with the Securities and Exchange Commission, particularly the Quarterly Reports on Form 10-Q and any Current Reports on Form 8-K.

Item 1. Business

Overview

RealNetworks creates innovative applications and services that make it easy to connect with and enjoy digital media. We invented the streaming media category in 1995 and continue to connect consumers with their digital media both directly and through partners, aiming to support every network, device, media type and social network. We provide the digital media services and products we create to consumers, mobile carriers and other businesses.

Consumers use our services and software to store, organize, play and manage their digital media content. Our consumer products and services include our photo and video sharing and storage application, our casual games, our direct-to-consumer ringback tone and productivity tool, and RealPlayer®, our widely distributed media player. Network service providers, such as mobile carriers, use our products and services to create and deliver digital media and messaging services, such as ringback tones, music on demand, intercarrier messaging, and photo and video sharing technology for their subscribers. The distribution and license of our products, services and technologies are dependent on contracts with third parties.

We were incorporated in 1994 in the State of Washington. Our common stock is listed on the NASDAQ Stock Market under the symbol "RNWK."

In this Annual Report on Form 10-K for the year ended December 31, 2016, RealNetworks, Inc., together with its subsidiaries, is referred to as "RealNetworks", the "Company", "we", "us", or "our". "RealPlayer," "RealTimes," "RealMedia," and other trademarks of ours appearing in this report are our property.

Segments

In the first quarter of 2016, we reorganized the management of our businesses, and as a result we report revenue and operating income (loss) in three segments: (1) Consumer Media, (2) Mobile Services, and (3) Games. We allocate to our reportable segments certain corporate expenses which are directly attributable to supporting the business, including but not limited to a portion of finance, legal, human resources and headquarters facilities. Remaining expenses, which are not directly attributable to supporting the business, are reported as corporate items. Also reported in our corporate segment are restructuring charges, lease exit and related charges, as well as stock compensation charges. Concurrent with the first quarter of 2016 segment change, we also changed our corporate expense allocation methodology to increase accountability, resulting in an increase in costs allocated to the Consumer Media and Mobile Services businesses. We have recast the historical financial information presented to reflect the new segments and new expense allocation methodology.

Consumer Media

Within our Consumer Media business, our RealPlayer media player software includes features and services that enable consumers to discover, play, download, manage and edit digital video, stream audio and video, download and save photos and videos from the web, transfer and share content on social networks, and edit their own photo and video content.

In our Consumer Media segment, revenue is derived from online sales to consumers of our PC-based RealPlayer products, including RealPlayer Plus, the premium version of our media player, and from the distribution of third-party software products to consumers who wish to download additional applications when downloading our software products. We also generate revenue through our RealPlayer subscription products, including our SuperPass service. SuperPass is our subscription service that provides consumers with access to a broad range of digital entertainment content for a monthly fee.

In addition to consumer products, we also license our technology, including our recently introduced RealMedia High Definition, or RMHD, codec technology to a variety of electronic equipment and microchip manufacturers who embed our codecs in their phones, laptops, smart TVs and other devices. We also promote the use of our codec technology to producers of media content and users of RealPlayer, which recently incorporated RMHD codec technology, to encourage the adoption of our RMHD technology by device manufacturers.

Mobile Services

Mobile Services consists primarily of the digital media services we provide to mobile and online service providers as software as a service (SaaS) offerings. Included in our SaaS offerings are our RealTimes, ringback tone and intercarrier messaging service, which are provided to a large number of mobile carriers around the world. Also included in our SaaS offerings is our music on demand service, which is provided in Korea. In connection with our

SaaS services, we also offer business intelligence, subscriber management and billing for the carriers who obtain our offerings for their customers.

We generate a significant portion of our revenue from sales within our Mobile Services business to a few mobile telecommunications carriers and our low-margin music on demand customer in Korea. In the near term, we expect that we

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will continue to generate a significant portion of our total revenue in this segment and our consolidated revenue from these customers.

Our photo and video sharing product, RealTimes® was launched in the second quarter of 2015. RealTimes gives consumers more options and control over their digital memories. With the RealTimes product, consumers can find, watch, save and share their photos and videos on multiple devices and across multiple platforms, as well as create photo and video collages, or "RealTimes Stories." RealTimes is distributed both directly to consumers and through partners. We offer both an entry-level free version for consumers, as well as a premium subscription version. Within our Mobile Services group, we focus on leveraging current and prospective wireless carrier relationships to increase distribution of RealTimes. In the fourth quarter of 2015 we entered into two carrier agreements for our RealTimes product and added two more in 2016.

Our ringback tone services enable callers to hear subscriber-selected music or messages instead of the traditional electronic ringing sound while waiting for the person they have called to answer. We primarily offer ringback tone services via mobile telecommunications carriers, where, in return for providing, operating and managing the ringback tone service for the carrier customers, we generally enter into revenue-sharing arrangements with the carriers based on monthly subscription fees, content download fees or a combination of such fees paid by subscribers.

Our intercarrier messaging platform enables operators to send and receive SMS messages worldwide between networks and service providers, regardless of network technology. Our platform processes billions of SMS messages per day between users on hundreds of different networks. Our intercarrier messaging services are delivered through various carrier partners within the U.S. and internationally. The revenue we earn from our intercarrier messaging service is subject to a revenue-sharing arrangement with our service partner.

Our low-margin music on demand service, provided through our partner in Korea, offers a wide range of songs for downloading or streaming to PCs and mobile devices through various payment arrangements.

Games

We develop, publish, license and distribute casual games, which are offered via mobile devices, digital downloads, online subscription play, third-party portals, and social networks. Casual games typically have simple graphics, rules and controls, are quick to learn, and often include time-management, board, card, puzzle, word and hidden-object games.

We have a large and diverse portfolio of original games developed by our in-house game studios, games developed by us from content we license from other intellectual property holders, games developed through partnerships with external game developers, and games licensed to us by third parties that we distribute to our customers. We distribute games principally in North America, Europe and Latin America through our GameHouse and Zylom websites and through websites owned or managed by third parties.

We monetize our games largely through sales of game licenses and subscriptions. We develop mobile games for play on handsets, smartphones and tablets, which can be purchased in app stores. Consumers can also play and purchase games from our catalog of online and downloadable PC games. We typically introduce new games by offering a free trial before purchase on an individual basis or as part of one of our subscription services. In addition to revenue from sales of game licenses and subscriptions, we also generate revenue from display advertising that is shown to consumers during online play.

See Note 18. Segment Information, in this Form 10-K for additional details on our segments and geographic concentrations.

Rhapsody

At December 31, 2016, we owned approximately 42% of the issued and outstanding stock of Rhapsody. See Note 4. Rhapsody Joint Venture, in this 10-K for additional details. Rhapsody provides music products and services that enable consumers to have access to digital music content from a variety of devices. The Rhapsody unlimited subscription service offers unlimited access to a catalog of tens of millions of music tracks by way of on-demand streaming and conditional downloads. Rhapsody also operates a radio-like service, branded as "UnRadio" in the U.S., through which users can listen to online radio stations based on selected artists or genres and download favorite tracks played on those stations for offline playback. Rhapsody currently offers music services worldwide (under the Napster brand) and generates revenue primarily through subscriptions to its music services either directly to consumers or through distribution partners, such as mobile carriers.

Customers

Our customers include consumers and businesses located throughout the world. Sales to customers outside the U.S., primarily in Asia and Europe, were 66%, 63% and 61% of our revenue during the years ended December 31, 2016, 2015 and 2014, respectively. See Note 18. Segment Information, for details on geographic concentrations and see Note 6. Allowance for Doubtful Accounts Receivable and Sales Returns, for details on customer revenue concentrations.

Research and Development

We devote a substantial portion of our resources to developing new products, enhancing existing products, expanding and improving our fundamental technology, and strengthening our technological expertise in all our businesses. During the years ended December 31, 2016, 2015, and 2014, we expended 25%, 35% and 34%, respectively, of our revenue on research and development activities.

Sales, Marketing and Distribution

Our marketing programs are aimed at increasing brand awareness of our products and services and stimulating demand. We use a variety of methods to market our products and services, including paid search advertising, affiliate marketing programs, advertising in print, electronic and other online media, direct mail and email offers to qualified potential and existing customers, and providing product specific information through our websites. We also cross-market products and services offered by some of our businesses through the RealPlayer and Games marketing and distribution channels. We also have subsidiaries and offices in several countries that market and sell our products outside the U.S.

Our products and services are marketed through direct and indirect channels. We use public relations, trade shows, events and speaking opportunities to market our products and services. We also use a variety of online channels, including social media, to promote and sell our products and services directly.

In our Consumer Media business, we market and sell our various RealPlayer services directly through our own websites such as Real.com, as well as indirectly through third party distribution partners.

Our Mobile Services sales, marketing and business development team works closely with many of our enterprise, infrastructure, wireless, broadband and media customers to identify new business opportunities for our entertainment applications, services and systems. Through ongoing communications with the product and marketing divisions of our customers, we tailor our SaaS offerings to their strategic needs and the needs of their subscribers.

Our games are marketed directly from our websites and through third-party distribution channels, such as mobile phone application stores, search engines, online portals, major social networks and content publishers.

Customer Support

Customer support is integral to the provision of nearly all of our consumer products and services. Consumers who purchase and use our consumer software products and services can get assistance primarily via the Internet or email, depending on the product or service. For most of our consumer products, we contract with third-party outsource support vendors to provide the primary staffing for our first-tier customer support globally. We also provide various support service options for our business customers and for software developers using our software products and associated services. Support service options include online support services and on-site support personnel covering technical and business-related support topics.

Competition

The market for software and services for digital media delivery over the Internet and wireless networks is intensely competitive. Many of our current and potential competitors have longer operating histories, greater name recognition or brand awareness, more employees or significantly greater resources than we do.

In our Consumer Media segment, our RealPlayer media player continues to face competition from alternative streaming media playback applications which have obtained very broad market penetration. The RMHD codec is competing against other next generation video codecs. We have independently developed and offer our proprietary codec, while many of our competitors have come together in patent pools to market and license competing codecs. Although we believe this approach can be a strength, in order to be successful we must overcome the inherent market penetration that arises when multiple companies promote a shared codec solution.

In our Mobile Services segment, our RealTimes product faces significant competition from both well known, firmly established companies and entrepreneurial, nimble startups which provide photo and video sharing services. In addition, as we continue to develop this product and expand its reach, we expect to see growing competition from companies offering innovative features for engaging with users' video and photo content. Our SaaS business competes with a large and diverse number of domestic and international companies, and each of our SaaS offerings tends to face competitors specific to that product or service. Our SaaS business continues to experience significant competitive pricing pressure from carriers and the proliferation of smartphone applications and services, some of which do not

depend on our carrier customers for distribution to consumers. Many of our SaaS services require a high degree of integration with carrier or service provider networks and thus require a high degree of operational expertise. In addition, our ability to enhance services with new features as the digital entertainment market evolves is critical to our competitive position, as is our knowledge of the consumer environment to which these services are targeted.

Our Games business competes with a variety of distributors, publishers and developers of casual games for mobile and PC platforms and for social networks. In addition, the market for casual games has become increasingly price competitive in recent years. Our in-house content development studios compete with other developers and publishers of mobile games based on our ability to develop and publish high quality games that resonate with consumers, our effectiveness at building our brands, and our ability to secure broad distribution. Our mobile games compete with a range of developers. Our family of websites serving the PC casual games market competes with other high volume distribution channels for downloadable, online and social games.

Intellectual Property

As of December 31, 2016, we had 19 U.S. patents, 53 South Korean patents, 15 patents in other countries and more than 30 pending patent applications worldwide relating to various aspects of our technology. We regularly analyze our patent portfolio and prepare additional patent applications on current and anticipated features of our technology in various jurisdictions across the world.

In addition to our patent portfolio, we have assembled, over time, an international portfolio of trademarks and service marks that covers certain of our products and services. We also have applications pending for additional trademarks and service marks in jurisdictions around the world, and have several unregistered trademarks. Many of our marks begin with the word “Real” (such as RealPlayer). We are aware of other companies that use “Real” in their marks alone or in combination with other words, and we do not expect to be able to prevent all third-party uses of the word “Real” for all goods and services.

Our ability to compete across our businesses partly depends on the superiority, uniqueness and value of the technology that we both develop and license from third parties. To protect our proprietary rights, we rely on a combination of patent, trademark, copyright and trade secret laws, confidentiality agreements with our employees and third parties, and protective contractual provisions. These efforts to protect our intellectual property rights may not be effective in preventing misappropriation of our technology, or may not prevent the development and design by others of products or technologies similar to or competitive with those we develop.

Employees

At December 31, 2016, we had approximately 534 employees, of which 160 were based in the Americas, 151 were based in Asia, and 223 were based in Europe. None of our employees are subject to a collective bargaining agreement.

Position on Charitable Responsibility

In periods when we have achieved sustained profitability, we intend to donate 5% of our net income to charitable organizations, which will reduce our net income for those periods. The non-profit RealNetworks Foundation, established in 2001, manages a substantial portion of our charitable giving efforts. Through the Foundation, we support our employees' philanthropic efforts by matching their donations of time and money to charitable organizations.

Available Information

Our corporate Internet address is www.realnetworks.com. We make available free of charge on www.investor.realnetworks.com our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and amendments to these reports, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (SEC). However, the information found on our corporate website is not part of this or any other report.

Item 1A. Risk Factors

You should carefully consider the risks described below together with all of the other information included in this Form 10-K. The risks and uncertainties described below are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we presently deem less significant may also impair our business operations. If any of the following risks actually occurs, our business, financial condition or operating results, and the trading price of our common stock, could be materially harmed.

The measures we have taken or may take to streamline or grow our business could have material adverse effects on our business or financial results if they prove to be unsuccessful or if we do not execute these measures effectively. Since 2012, we have taken steps to reduce costs, restructure, and simplify our business and operations. We have also taken steps to identify, fund or pursue initiatives intended to create or support growth in our business or financial results. These measures and initiatives have impacted virtually all of our segments at various times. We continue to

assess opportunities to further streamline our operations and make our businesses more efficient, and to grow our business through new initiatives.

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The simultaneous execution of all of these measures is complex and ambitious. There is no assurance that we will be able to effectively plan or execute plans to implement such measures, either in a timely manner or at all, and our failure to do so would have a material adverse impact on our business and financial results. The pursuit of these measures requires us to allocate limited resources among our diverse business units, business functions and initiatives and we can provide no assurance that the way we allocate our resources will prove to be effective in achieving the business outcomes we seek. The measures we take to reduce costs, restructure and simplify our business, or take to identify, fund or pursue new initiatives have in the past required, and may in the future require, significant cash outlays in excess of cash gains, and we cannot guarantee that these expenditures will have the desired return or that our cash reserves will be sufficient to complete the intended measures.

Measures that reduce costs, restructure, or simplify our business may reduce our human and capital resources. These measures may not result in profitability, and may result in increased expenses in affected periods. These measures also may negatively affect our ability to maintain, develop or deploy products or services and compete effectively, or our ability to operate our business effectively, or both.

Changes in our business as a result of measures to streamline or grow our business may create uncertainty. Our operations, business, or financial results may be adversely affected if there is customer or employee uncertainty surrounding the future direction of our product and service offerings and strategy for our businesses. If these adverse effects were to occur, or if our investors become uncertain about our offerings and strategy, our stock price may be adversely affected, and we and our shareholders may not realize the intended financial, operational and other benefits from such measures.

We need to successfully monetize our existing, new and future products and services in order to sustain and grow our businesses.

The process of developing and distributing products, services and technology is complex, costly and uncertain, and is subject to a number of risks.

Providing products and services (including license of our intellectual property) that are attractive and useful to subscribers and consumers is in part subject to unpredictable and volatile factors beyond our control, including end-user preferences, competing products and services, the rapid pace of change in the market and a limited number of dominant distribution partners. Our historically core products and services are primarily distributed through desktop computers and feature phones, and we have developed newer products and services for emerging mobile device platforms. If we do not appropriately develop or enhance our products and services, they may become obsolete. Any failure by us to timely respond to or accurately anticipate consumers' changing needs and desires, emerging technological trends or important changes in the market or competition for products and services that we introduce, or that we are investing in, are developing or have launched, could result in an increase in the current rate of decline in our market share, flat or declining revenue, or the loss of market opportunities. In addition, third parties that control access to and distribution to users through these new platforms may present obstacles to reaching our traditional customer base and other unknown distribution challenges.

We also must make long-term investments, develop or obtain appropriate intellectual property and commit significant resources before knowing whether the products and services that we are developing or have introduced will meet the demands of a large enough group of consumers. If the products and services are not successful, we may not realize a sufficient return on our investment, or may experience a loss on our investments. The investment or dedication of limited cash or other resources to particular projects for products and services may negatively affect our ability to pursue opportunities for other such projects. In addition, these long-term measures may deplete our cash reserves. In that event, we may not have sufficient cash and other resources to pursue the development or acquisition of new products or services or otherwise sustain or grow our business. Any of these events could have a material adverse impact on our business and financial results.

Moreover, if we are unsuccessful in securing profitable distribution channels with new partners, including mobile telecommunications carriers, strengthening or renewing channels with existing partners, and monetizing our products and services, our revenue and earnings may not grow or will continue to decline, and our businesses will suffer.

We invest heavily in the development of new products and services, including enhanced features for such products and services. We expect to continue to invest both in further development and in sales and marketing efforts aimed at

monetizing certain of these products and services and new products and services. If we are unable to generate sustained interest in these products and services, and therefore drive revenue growth, our financial results and cash position will continue to be materially negatively impacted.

Furthermore, products and services may be subject to legal challenge. Responding to any such claims may require us to enter into royalty and licensing agreements on unfavorable terms, require us to stop distributing or selling, or to redesign our

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products or services, or to pay damages, any of which could materially harm our operating results and our ability to grow our businesses.

Our businesses face substantial competitive challenges that may prevent us from being successful in those businesses, and may negatively impact future growth in those businesses.

Many of our current and potential competitors in our businesses have longer operating histories, greater name or brand recognition, more employees and significantly greater resources than we do. In addition, current and potential competitors may include relatively new businesses that develop or use innovative technologies, products or features that could disrupt the market for technologies, products or features we currently market or are seeking to develop. In attempting to compete with any or all of these competitors, we may experience some or all of the following consequences, any of which would adversely affect our operating results and the trading price of our stock:

• reduced prices or margins,

• loss of current and potential customers, or partners and potential partners who distribute our products and services or who provide content that we distribute to our customers,

• changes to our products, services, technologies, licenses or business practices or strategies,

• lengthened sales cycles,

• inability to meet demands for more rapid sales or development cycles,

• industry-wide changes in content distribution to customers or in trends in consumer consumption of digital media products and services,

• pressure to prematurely release products or product enhancements, or

• degradation in our stature or reputation in the market.

The market for our Mobile Services business is highly competitive and evolving rapidly. Increased use of smartphones has resulted in a proliferation of applications and services that compete with our SaaS services. For example, our ringback tones solution faces competition from alternative kinds of applications and services that carriers can deploy or offer to their subscribers, or that consumers can acquire independently of their carrier. Increased competition has in the past resulted in pricing pressure, forcing us to lower the selling price of our services. We expect this pricing pressure to continue to materially harm our operating results and financial condition.

Our RealTimes product and music on demand service also face strong competition from other technology companies and cloud service providers of substantially similar offerings, including some that are firmly established in the marketplace and have access to extensive resources, and some that specialize in video and photo sharing services or music streaming services. We have seen and expect to continue to see growing competition from companies offering innovative features for these kinds of products and services, some of which are offered for free. To be competitive, our RealTimes product must provide sufficiently engaging and compelling features for users' digital content, enticing consumers directly to the application and creating an appealing value proposition for our distribution partners.

Similarly, to be competitive, our music on demand service must provide appealing music content to meet consumer preferences at an acceptable cost. There is no assurance that current and potential customers and distribution partners will prefer our product, services and feature offerings to those of our competitors, which could materially harm our operating results and financial condition.

Our Consumer Media software and services for media playback and production (RealPlayer, RealMedia VB and RealMedia HD) compete with alternative media playback technologies and audio and video content formats that have obtained broad market penetration. RealMedia VB and RealMedia HD are codecs, technology that enables compression and decompression of the media content in a (usually proprietary) format. We license our codec technology primarily to computer, smartphone and other mobile device manufacturers. Similar to our RealPlayer software and services, our codec technology faces strong competition, from alternative technologies. To compete effectively, codec technologies must appeal to, and be adopted for use by, a wide range of parties: producers and providers of media content, consumers of media content, and device manufacturers who pre-load codec technologies into their devices. Promoting adoption of our codec technologies to a wide and diverse target market is a complex undertaking. Whether our current or future technologies and formats for producing, streaming or playing back media content, including related codec technology, will be widely and successfully adopted is highly uncertain. If we are unable to compete successfully, our Consumer Media business could continue to decline.

The branded services in our Games business compete with other developers, aggregators and distributors of mobile, online, and downloadable games. Our competitors vary in size and capabilities, which present us with a range of competitive factors and conditions to address. Some of these competitors have high volume distribution channels and greater financial resources than we do. Our Games business also competes with many other smaller companies that may be able to adjust to market conditions. We also face significant price competition in the casual games market, and some of our competitors may be able to offer games for free, or reduce prices more aggressively than us. We expect competition to continue to intensify in this

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market from these and other competitors. Our games development studios compete primarily with other developers of mobile, online, and downloadable games, and must continue to develop popular and high-quality game titles. Our Games business must also continue to execute on opportunities to expand the play of our games on a variety of non-PC platforms, including mobile, in order to maintain our competitive position and to grow the business. If we are unable to achieve future growth in our revenue, our Games business will suffer.

The distribution and license of our products, services and technologies are dependent on contracts with third parties, which subjects us to significant risks that could negatively impact our revenue or otherwise harm our operating results.

The distribution and license of our products, services and technologies are primarily dependent on contracts with third parties, such as mobile telecommunications carriers, providers of services to carriers, online service providers, OEMs, mobile device manufacturers and others. The loss of contracts, a reduction in the other parties, marketing or promotion of our offerings, or the termination or non-renewal or renegotiation of contract terms that are less favorable to us could result in the loss of future revenues and could result in the loss of anticipated profits. In our Consumer Media and Mobile Services segments, we derive a material portion of our revenue from contracts with third parties. In addition, by their nature and terms, our contracts with third parties are of a fixed duration and may terminate or may be renegotiated, or may be subject to early termination by the other party. As a result, we must seek additional contracts with third parties on an ongoing basis to sustain and grow our business. Whether, or the terms on which, new parties or the parties with existing contracts wish to enter into, continue or terminate such contracts will depend in part on whether our current or future products, services or technologies are technologically and commercially effective and provide appealing or competitive features and capabilities. We expect to face continuing and increased technical and commercial competition for the products, services and technologies we seek to provide, and there is no assurance that the parties with which we currently have contracts will continue or extend current contracts on the same or more favorable terms, or that we will obtain alternative or additional contracts for our services and technologies. The failure to do any of these things could materially harm our operating results and financial condition. Negotiation of the terms of some of these contracts can be very competitive and may not always result in contract terms favorable to us. For example:

Many of our contracts with carriers provide for revenue sharing arrangements, but we have limited control over the prices charged by the carriers for these services. Furthermore, most of these contracts do not provide for guaranteed minimum payments or usage levels. Because most of our carrier contracts are nonexclusive, it is possible that our carrier could purchase similar services from third parties and cease to use our services in the future. As a result, our revenue derived under carrier contracts could be substantially reduced depending on the pricing and usage decisions of the carriers.

- Some of our contracts with carriers require us to incur significant set-up costs prior to the launch of services with that carrier. In addition to current period costs, we may be required to record impairments or other charges in future periods related to our carrier contracts, which would negatively impact our results of operations.

Most of our contracts do not obligate the other party to market or distribute any of our offerings to their customers. Despite the lack of marketing commitments, revenue related to our offerings is, to a large extent, dependent upon the marketing and promotion activities of our carrier, and without this marketing we may not be able to generate the revenue or profit we anticipate from these contracts.

Many of our contracts are short term and many allow for early termination by the other party with or without cause. These contracts are therefore subject to renegotiation of pricing or other key terms that could be adverse to our interests and leave us vulnerable to non-renewal by the other party. The termination, expiration, or non-renewal of a contract could lead to a decrease in future revenues and may cause a decrease or uncertainty in the earnings that we report, adversely affecting our financial results.

Our intercarrier messaging services are used by various carrier partners within the U.S. and internationally. The revenue we earn from these services is derived from a revenue-sharing contract with our service partner, by which we receive a portion of the revenue they collect from their carrier customers for the use of our services. We have limited control over the prices charged by our service partner for our intercarrier messaging services, and the contract does not provide for guaranteed minimum payments or usage levels for our services. As a result, our revenue derived under our contract with our service partner for intercarrier messaging services could be substantially reduced depending on the pricing and usage decisions of the service partner.

Nearly all of our contracts in which we provide to another party services or rights to use our technology include some form of obligation by us to indemnify the other party for certain liabilities and losses incurred by them, including liabilities resulting from third party claims for damages that arise out of the use of our technology. These indemnification terms provide us with certain procedural safeguards, including the right to control the defense of the indemnified party. We have in the past incurred costs to defend and settle such claims. Claims against which we may be obligated to defend others pursuant to our contracts could in the future result in payments that could materially harm our business and financial results.

A majority of the revenue that we generate in our Mobile Services segment is dependent upon our relationships with a few customers, and any deterioration of these relationships could materially harm our revenue. We generate a significant portion of our revenue from sales within our Mobile Services business to a few carrier customers and our music on demand customer in Korea. In the near term, we expect that we will continue to generate a significant portion of our total revenue from these customers. If these customers fail to market or distribute our services or terminate or fail to renew their business contracts with us, or if our relationships with these customers deteriorate in any significant way, we may be unable to replace the affected business arrangements with acceptable alternatives. Failure to maintain our relationships with these customers, or replace them with comparable revenue streams, could have a material negative impact on our revenue or financial results.

We may not be successful in maintaining and growing our distribution of digital media products. Maintaining and growing the distribution of digital media products through our websites and our other distribution channels has historically been important to our business, including growth through the introduction of new products and services distributed through these channels. Consumers are not downloading and using our digital media products consistent with past usage, so our ability to generate revenue from those products has been, and we expect will be continue to be, reduced, leading to lower than expected adoption of newly introduced products and services. Our inability to maintain continued high volume distribution of our digital media products could also continue to hold back the growth and development of related revenue streams from these market segments, including the distribution of third-party products and sales of our subscription services, and therefore harm our business and our prospects. Our revenue from the distribution of third-party products will also continue to be negatively impacted if those products are not more widely downloaded and used by consumers, including due to the relative market saturation of such products. Most of our revenue from the distribution of third-party products has historically been derived from a single customer, and the terms of this relationship have significantly changed since the third quarter of 2014. Our distribution revenue has been, and may continue to be, materially negatively impacted by these factors and we cannot guarantee that future revenue will rebound to historical levels.

Our operating results are difficult to predict and may fluctuate, which may contribute to continued weakness in our stock price.

The trading price for our common stock has a history of volatility. As a result of the rapidly changing markets in which we compete, our operating results may fluctuate or continue to decline from period to period, which may contribute to volatility or continued weakness of our stock price.

In past periods, our operating results have been affected by personnel reductions and related restructuring charges, lease exit and related charges, other one-time events, and impairment charges for certain of our equity investments, goodwill and other long-lived assets. In addition to these factors, the general difficulty in forecasting our operating results and metrics could result in actual results that differ significantly from expected results, causing volatility and continued weakness in our stock price.

Certain of our product and service investment decisions (for example, research and development and sales and marketing efforts) are based on predictions regarding business and the markets in which we compete. Fluctuations in our operating results, particularly when experienced beyond what we expected, could cause the trading price of our stock to fluctuate. Weakness in our operating performance is likely to cause continued weakness in our stock price.

Any impairment to our goodwill and definite-lived assets could result in a significant charge to our earnings.

In accordance with accounting principles generally accepted in the United States, we are required to test goodwill for possible impairment on an annual basis based upon a fair value approach, or more frequently in the event of certain indications of possible impairment. We review definite-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of such assets may not be recoverable. These events or circumstances could include a significant change in

the business climate, including a significant sustained decline in a reporting unit's market value, changes in our operating plans and forecasts, legal factors, operating performance indicators, competition, sale or disposition of a significant portion of our business, a significant sustained decline in our market capitalization and other factors. If we were to determine that an impairment had occurred, we would be required to record an impairment charge, which could have a significant negative, and unpredicted, impact on our financial results. The total carrying value of our goodwill and definite-lived assets as of December 31, 2016 was \$19 million.

Continued loss of revenue from our subscription services may continue to harm our operating results. Our operating results have been and may continue to be adversely impacted by the loss of subscription revenue related to our more traditional products and services. Subscribers may cancel their subscriptions to our services for many reasons, including a perception that they do not use the services sufficiently or that the service does not provide enough value, a lack of attractive or exclusive content generally or as compared with competitive service offerings, or because customer service issues are not satisfactorily resolved. Revenue from our SuperPass subscription service, for example, has continued to decline over several periods, due to changes in consumer preferences and changes on our part to focus on other products and services we offer, and we expect these trends to continue.

Government regulation of the Internet is evolving, and unfavorable developments could have an adverse effect on our operating results.

We are subject to regulations and laws specific to the marketing, sale and delivery of goods and services over the Internet. These laws and regulations, which continue to evolve, cover taxation, user privacy, data collection and protection, copyrights, electronic contracts, sales procedures, automatic subscription renewals, credit card processing procedures, consumer protections, digital games distribution, broadband Internet access and content restrictions. We cannot guarantee that we have been or will be fully compliant in every jurisdiction, as it is not entirely clear how existing laws and regulations governing issues such as privacy, taxation and consumer protection apply or will be enforced with respect to the products and services we sell through the Internet. Moreover, as Internet commerce continues to evolve, increasing regulation and/or enforcement efforts by federal, state and foreign agencies and the prospects for private litigation claims related to our data collection, privacy policies or other e-commerce practices become more likely. In addition, the adoption of any laws or regulations or the imposition of other legal requirements that adversely affect our ability to market, sell, and deliver our products and services could decrease our ability to offer or customer demand for our service offerings, resulting in lower revenue. Future regulations, or changes in laws and regulations or their existing interpretations or applications, could also require us to change our business practices, raise compliance costs or other costs of doing business and result in additional historical or future liabilities for us, resulting in adverse impacts on our business and our operating results.

As a consumer-facing business, we receive complaints from our customers regarding our consumer marketing efforts and our customer service practices. Some of these customers may also complain to government agencies, and from time to time, those agencies have made inquiries to us about these practices. In addition, we may receive complaints or inquiries directly from governmental agencies that have not been prompted by consumers. In May of 2012, we resolved an investigation and complaint filed against us by the Washington State Office of the Attorney General, or Washington AG, relating to our consumer marketing practices through the entry of a consent decree filed in King County, Washington Superior Court. While we resolved that matter, we cannot provide assurance that the Washington AG or other governmental agencies will not bring future claims regarding our marketing, or consumer services or other practices.

We face financial and operational risks associated with doing business in non-U.S. jurisdictions and operating a global business, that have in the past and could in the future have a material adverse impact on our business, financial condition and results of operations.

A significant portion of our revenue is derived from sales outside of the U.S. and most of our employees are located outside of the U.S.. Consequently, our business and operations depend significantly on global and national economic conditions and on applicable trade regulations and tariffs. The growth of our business is also dependent in part on successfully managing our international operations. Our non-U.S. sales, purchases and operations are subject to risks

inherent in conducting business abroad, many of which are outside our control, including the following:

- periodic local or geographic economic downturns and unstable political conditions;
- price and currency exchange controls;
- fluctuation in the relative values of currencies;
- difficulty in repatriating money, whether as a result of tax laws or otherwise;

- compliance with current and changing tax laws, and the coordination of compliance with U.S. tax laws and the laws of any of the jurisdictions in which we do business;
- difficulties protecting intellectual property;
- compliance with labor laws and other laws governing employees;
- local labor disputes;
- changes in trading policies, regulatory requirements, tariffs and other barriers, or the termination or renegotiation of existing trade agreements;
- impact of changes in immigration or other policies impacting our ability to attract, hire, and retain key talent; and
- difficulties in managing a global enterprise, including staffing, collecting accounts receivable, and managing suppliers, distributors and representatives.

Because consumers may consider the purchase of our digital entertainment products and services to be a discretionary expenditure, their decision whether to purchase our products and services may be influenced by macroeconomic factors that affect consumer spending such as unemployment, access to credit, negative financial news, and declines in income. In addition, mobile telecommunication carriers and other business partners may reduce their business or advertising spending with us or for our products and services they distribute to users in the face of adverse macroeconomic conditions, such as financial market volatility, government austerity programs, tight credit, and declines in asset values. We have in the past recorded material asset impairment charges due in part to weakness in the global economy, and we may need to record additional impairments to our assets in future periods in the event of renewed weakness and uncertainty in the global or a relevant national economy. Accordingly, any significant weakness in the national and/or global economy could materially impact our business, financial condition and results of operations in a negative manner.

Our international operations involve risks inherent in doing business globally, including difficulties in managing operations due to distance, language, and cultural differences, local economic conditions, different or conflicting laws and regulations, taxes, and exchange rate fluctuations. The functional currency of our foreign subsidiaries is the local currency of the country in which each subsidiary operates. We translate our subsidiaries' revenues into U.S. dollars in our financial statements, and continued volatility in foreign exchange rates, particularly if the U.S. dollar strengthens against the euro or the Korean won, may result in lower reported revenue or net assets in future periods. If we do not effectively manage any of the risks inherent in running our international businesses, our operating results and financial condition could be harmed.

Our business is conducted in accordance with existing international trade relationships, and trade laws and regulations. Changes in geopolitical relationships and laws or policies governing the terms of foreign trade could create uncertainty regarding our ability to operate and conduct commercial relationships in affected jurisdictions, which could have a material adverse effect on our business and financial results. Additionally, our global operations may also be adversely affected by political events, domestic or international terrorist events and hostilities or complications due to natural or human-caused disasters. These uncertainties could have a material adverse effect on the continuity of our business and our results of operations and financial condition.

Rhapsody could continue to recognize losses, or we may modify our relationship with Rhapsody in ways which could negatively impact our results of operations and financial condition, or the perceived value of our common stock.

On March 31, 2010, we completed the restructuring of our digital audio music service joint venture, Rhapsody America LLC. As a result of the restructuring, we no longer have operational control over Rhapsody and Rhapsody's operating performance is no longer consolidated with our consolidated financial statements. We disclose only limited strategic, business and financial information regarding Rhapsody in our financial statements and disclosures, in accordance with generally accepted accounting principles applicable in the U.S.. Rhapsody has generated accounting losses since its inception. We have recognized losses on our investment in the convertible preferred stock of Rhapsody since the restructuring. We continue to track additional losses incurred by Rhapsody whether or not we recognize them. In certain circumstances, proper accounting treatment may cause us to recognize additional losses on our investment in Rhapsody. Consequently, Rhapsody's past or future performance may have an adverse effect on our

financial condition, results of operations, or perceived value. See Note 4. Rhapsody Joint Venture, in this form 10-K, for further discussion of our relationship with Rhapsody, including information about the accounting treatment related to the investment in Rhapsody.

As a significant shareholder of Rhapsody we may be requested to assist Rhapsody in various financial or operational ways. In particular, we may be required to decide whether or not it is in the long term interests of RealNetworks to take an action with respect to Rhapsody. These actions may include, among others, an additional loan or investment which may reduce our available cash or liquidity, or result in the recognition of additional losses associated with our investment in Rhapsody. The extent of any such potential request for assistance is likely to be influenced by whether Rhapsody experiences a decline or does not succeed in growing or improving its business or its financial condition. Some or all of our decisions or actions related to Rhapsody could have, or increase the risk to us of, an adverse effect on our financial

condition, results of operations or perceived value.

We depend on timely financial information from Rhapsody in order to timely prepare and file our periodic SEC reports.

Given the current proportion of the outstanding equity of Rhapsody that we hold, we need to receive Rhapsody's unaudited quarterly financial statements and related information in order to timely prepare our quarterly consolidated financial statements and also to report certain of Rhapsody's financial results, as may be required, in our quarterly reports on Form 10-Q. In addition, under certain circumstances, we may be required to include Rhapsody's annual audited financial statements in our annual report on Form 10-K in future periods. As we no longer exert operational control over Rhapsody, we cannot guarantee that Rhapsody will deliver its financial statements and related information to us in a timely manner, or at all, or that the unaudited financial statement information provided by Rhapsody will not contain inaccuracies that are material to our reported results. Any failure to timely obtain Rhapsody's quarterly financial statements or to include its audited financial statements in our future annual reports on Form 10-K, if required, could cause our reports to be filed in an untimely manner, which would preclude us from utilizing certain registration statements and could negatively impact our stock price. See Note 4. Rhapsody Joint Venture, for further information related to our investment in Rhapsody.

The continued loss of key personnel, or difficulty recruiting and retaining them, could significantly harm our business or jeopardize our ability to meet our growth objectives.

Our success depends substantially on the contributions and abilities of certain key executives and employees. We have experienced a significant amount of executive-level turnover in the past several years, which has had and could continue to have a negative impact on our ability to retain key employees. Rob Glaser, our founder, Chairman and initial chief executive officer, resigned as chief executive officer in 2010, was appointed as interim chief executive officer in July 2012, and was named permanent chief executive officer in July 2014. In addition, each member of our executive team was either hired or promoted to his or her executive position within the past four years. We cannot provide assurance that we will effectively manage these executive-level transitions, which may impact our ability to retain key executives and employees and which could harm our business and operations to the extent there is customer or employee uncertainty arising from such transitions.

Our success is also substantially dependent upon our ability to identify, attract and retain highly skilled management, technical and sales personnel. Qualified individuals are in high demand and competition for such qualified personnel in our industry, particularly engineering talent, is extremely intense, and we may incur significant costs to attract or retain them. Changes in immigration or other policies in the U.S. or other jurisdictions that make it more difficult to hire and retain key talent, or to assign individuals to any of our locations as needed to meet business needs, could adversely affect our ability to attract key talent or deploy individuals as needed, and thereby adversely affect our business and financial results. In addition, our ability to attract and retain personnel has been and may continue to be made more difficult by the uncertainty created by our executive-level turnover and by our continued restructuring efforts, which have involved reductions in our workforce. There can be no assurance that we will be able to attract and retain the key personnel necessary to sustain our business or support future growth.

Acquisitions and divestitures involve costs and risks that could harm our business and impair our ability to realize potential benefits from these transactions.

As part of our business strategy, we have acquired and sold technologies and businesses in the past and expect that we will continue to do so in the future. The failure to adequately manage transaction costs and address the financial, legal and operational risks raised by acquisitions and divestitures of technology and businesses could harm our business and prevent us from realizing the benefits of these transactions. In addition, we may identify and acquire target companies, but those companies may not be complementary to our current operations and may not leverage our existing infrastructure or operational experience, which may increase the risks associated with completing acquisitions.

Transaction-related costs and financial risks related to completed and potential future purchase or sale transactions may harm our financial position, reported operating results, or stock price. Previous acquisitions have resulted in significant expenses, including amortization of purchased technology, amortization of acquired identifiable intangible

assets and the incurrence of charges for the impairment of goodwill and other intangible assets, which are reflected in our operating expenses. New acquisitions and any potential additional future impairment of the value of purchased assets, including goodwill, could have a significant negative impact on our future operating results. In compliance with accounting principles generally accepted in the United States, we evaluate these assets for impairment at least annually. Factors that may be considered a change in circumstances, indicating that our goodwill or definite-lived assets may not be recoverable, include reduced future revenue and cash flow estimates due to changes in our forecasts, and unfavorable changes to valuation multiples and discount rates due to

changes in the market. If we were to conclude that any of these assets were impaired, we would have to recognize an impairment charge that could significantly impact our financial results.

Purchase and sale transactions also involve operational risks that could harm our existing operations or prevent realization of anticipated benefits from a transaction. These operational risks include:

- difficulties and expenses in assimilating the operations, products, technology, information systems, and/or personnel of the acquired company;
- retaining key management or employees of the acquired company;
- entrance into unfamiliar markets, industry segments, or types of businesses;
- operating, managing and integrating acquired businesses in remote locations or in countries in which we have little or no prior experience;
- diversion of management time and other resources from existing operations;
- impairment of relationships with employees, affiliates, advertisers or content providers of our business or acquired business; and
- assumption of known and unknown liabilities of the acquired company, including intellectual property claims.

We may be unable to adequately protect our proprietary rights or leverage our technology assets, and may face risks associated with third-party claims relating to intellectual property rights associated with our products and services.

Our ability to compete across our businesses partly depends on the superiority, uniqueness and value of our technology, including both internally developed technology and technology licensed from third parties. To protect our proprietary rights, we rely on a combination of patent, trademark, copyright and trade secret laws, confidentiality agreements with our employees and third parties, and protective contractual provisions. Our efforts to protect our intellectual property rights may not assure our ownership rights in our intellectual property, protect or enhance the competitive position of our products, services and technology, or effectively prevent misappropriation of our technology.

From time to time we receive claims and inquiries from third parties alleging that our technology used in our business may infringe the third parties' proprietary rights. These claims, even if not meritorious, could force us to make significant investments of time, attention and money in defense, and give rise to monetary damages, penalties or injunctive relief against us. We may be forced to litigate, to enforce or defend our patents, trademarks or other intellectual property rights, or to determine the validity and scope of other parties' proprietary rights in intellectual property. To resolve or avoid such disputes, we may also be forced to enter into royalty or licensing agreements on unfavorable terms or redesign our product features, services and technology to avoid actual or claimed infringement of misappropriation or technology. Any such dispute would likely be costly and distract our management, and the outcome of any such dispute (such as additional licensing arrangements or redesign efforts) could fail to improve our business prospects or otherwise harm our business or financial results.

Nearly all of our contracts by which we provide to another party services or rights to use our technology include some form of obligation by us to indemnify the other party for certain liabilities and losses incurred by them, including liabilities resulting from third party claims for damages that arise out of the use of our technology. Also, in 2012 we sold most of our patents, including patents that covered streaming media, to Intel Corporation, in a contract by which we agreed to indemnify Intel for certain third-party infringement claims against these patents up to the purchase price we received in the sale. Claims against which we may be obligated to defend others pursuant to our contracts expose us to the same risks and adverse consequences described above regarding claims we may receive directly alleging that our trademarks or technology used in our business may infringe a third party's proprietary rights.

Disputes regarding the validity and scope of patents or the ownership of technologies and rights associated with streaming media, digital distribution, and online businesses are common and likely to arise in the future. We also routinely receive challenges to our trademarks and other proprietary intellectual property that we are using in our business activities. We are likely to continue to receive claims of third parties against us, alleging contract breaches, infringement of copyrights or patents, trademark rights, trade secret rights or other proprietary rights, or alleging unfair competition or violations of privacy rights.

We believe that our patent portfolio before the sale to Intel may have in the past discouraged third parties from bringing infringement or other claims against us relating to the use of our technologies in our business. Accordingly, we cannot predict whether the sale of these patent assets to Intel will result in additional infringement or other claims against us from third parties.

Our business and operating results will suffer and we may be subject to market risk and legal liability if our systems or networks fail, become unavailable, unsecured or perform poorly so that current or potential users do not have adequate access to our products, services and websites.

Our ability to provide our products and services to our customers and operate our business depends on the continued operation and security of our information systems and networks and those of our service providers. A significant or repeated reduction in the performance, security or availability of our information systems and network infrastructure or that of our service providers could harm our ability to conduct our business, and harm our reputation and ability to attract and retain users, customers, advertisers and content providers. Many of our products are interactive Internet applications that by their very nature require communication between a client and server to operate.

We sell many of our products and services through online sales transactions directly with consumers, and their credit card information is collected and stored by our payment processors. The systems of our third party service providers may not prevent future improper access or disclosure of credit card information or personally identifiable information.

We have an extensive privacy policy concerning the collection, use and disclosure of user data involved in interactions between our client, third party payment providers, and server products. A security breach that leads to disclosure of consumer account information, or any failure by us to comply with our posted privacy policy or existing or new privacy legislation, could harm our reputation, impact the market for our products and services, or subject us to litigation. We have on occasion experienced system errors and failures that caused interruption in availability of products or content or an increase in response time. Problems with our systems and networks, or the third party systems and networks that we utilize, could result from a failure to adequately maintain and enhance these systems and networks, natural disasters and similar events, power failures, intentional actions to disrupt systems and networks and many other causes. Many of our services do not currently have fully redundant systems or a formal disaster recovery plan, and we may not have adequate business interruption insurance to compensate us for losses that may occur from a system outage.

Changes in regulations applicable to the Internet and e-commerce that increase the taxes on the services we provide could materially harm our business and operating results.

As Internet commerce continues to evolve, increasing taxation by state, local or foreign tax authorities becomes more likely. For example, taxation of electronically delivered products and services or other charges imposed by government agencies may also be imposed. We believe we collect transactional taxes and are compliant and current in all jurisdictions where we believe we have a collection obligation for transaction taxes. Any regulation imposing greater taxes or other fees for products and services could result in a decline in the sale of products and services and the viability of those products and services, harming our business and operating results. A successful assertion by one or more states or foreign tax authorities that we should collect and remit sales or other taxes on the sale of our products or services could result in substantial liability for past sales.

In those countries where we have a tax obligation, we collect and remit value added tax, or VAT, on sales of “electronically supplied services” provided to European Union residents. The collection and remittance of VAT subjects us to additional currency fluctuation risks.

We may be subject to additional income tax assessments and changes in applicable tax regulations could adversely affect our financial results.

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes, income taxes payable, and net deferred tax assets. In the ordinary course of business, there are many transactions and calculations where the ultimate tax determination is uncertain. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation could be materially different than that which is reflected in our historical financial statements. An audit or litigation can result in significant additional income taxes payable in the U.S. or foreign jurisdictions which could have a material adverse effect on our financial condition and results of operations.

The U.S. is considering corporate tax reform that may significantly change the corporate tax rate and U.S. international tax rules. Additionally, longstanding international tax norms that determine each country’s jurisdiction to tax cross-border international trade are evolving. Given the unpredictability of these possible changes and their

potential interdependency, it is very difficult to assess whether the overall effect of such potential tax changes would be cumulatively positive or negative for our earnings and cash flow, but such changes could adversely impact our financial results.

Our Chairman of the Board and Chief Executive Officer beneficially owns approximately 36% of our stock, which gives him significant control over certain major decisions on which our shareholders may vote or which may discourage an acquisition of us.

Robert Glaser, our Chairman of the Board and Chief Executive Officer, beneficially owns approximately 36% of our common stock. As a result, Mr. Glaser and his affiliates will have significant influence to:

- elect or defeat the election of our directors;
- amend or prevent amendment of our articles of incorporation or bylaws;
- effect or prevent a merger, sale of assets or other corporate transaction; and
- control the outcome of any other matter submitted to the shareholders for vote.

The stock ownership of Mr. Glaser and his affiliates may discourage a potential acquirer from making a tender offer or otherwise attempting to obtain control of RealNetworks, which in turn could reduce our stock price or prevent our shareholders from realizing a premium over our stock price.

Provisions of our charter documents, shareholder rights plan, and Washington law could discourage our acquisition by a third party.

Our articles of incorporation provide for a strategic transactions committee of the board of directors. Without the prior approval of this committee, and subject to certain limited exceptions, the board of directors does not have the authority to:

- adopt a plan of merger;
- authorize the sale, lease, exchange or mortgage of assets representing more than 50% of the book value of our assets prior to the transaction or on which our long-term business strategy is substantially dependent;
- authorize our voluntary dissolution; or
- take any action that has the effect of any of the above.

Mr. Glaser has special rights under our articles of incorporation to appoint or remove members of a strategic transactions committee at his discretion that could make it more difficult for RealNetworks to be sold or to complete another change of control transaction without Mr. Glaser's consent. RealNetworks has also entered into an agreement providing Mr. Glaser with certain contractual rights relating to the enforcement of our charter documents and Mr. Glaser's roles and authority within RealNetworks. These rights and his role as Chairman of the Board of Directors, together with Mr. Glaser's significant beneficial ownership, create unique potential for concentrated influence of Mr. Glaser over potentially material transactions involving RealNetworks and decisions regarding the future strategy and leadership of RealNetworks.

We have adopted a shareholder rights plan, which was amended and restated in December 2008, and amended in April 2016, which provides that shares of our common stock have associated preferred stock purchase rights. The exercise of these rights would make the acquisition of RealNetworks by a third party more expensive to that party and has the effect of discouraging third parties from acquiring RealNetworks without the approval of our board of directors, which has the power to redeem these rights and prevent their exercise.

Washington law imposes restrictions on some transactions between a corporation and certain significant shareholders. The foregoing provisions of our charter documents, shareholder rights plan, our agreement with Mr. Glaser, and Washington law, as well as our charter provisions that provide for a classified board of directors and the availability of "blank check" preferred stock, could have the effect of making it more difficult or more expensive for a third party to acquire, or of discouraging a third party from attempting to acquire, control of us. These provisions may therefore have the effect of limiting the price that investors might be willing to pay in the future for our common stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate and administrative headquarters and certain research and development and sales and marketing personnel are located at our facility in Seattle, Washington.

We lease properties primarily in the following locations that are utilized by all of our business segments, unless otherwise noted below, to house our research and development, sales and marketing, and general and administrative personnel:

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Location	Area leased (sq. feet)	Lease expiration
Seattle, Washington (1)	86,000	August 2024, with an option to renew for two five-year periods
Eindhoven, Netherlands (2)	23,000	June 2022

As of December 31, 2016, we have reduced our use of the facility by 69%. The space which we no longer occupy (1) is currently under sublease for all or a portion of the remaining lease term. For further information, please see Note 11. Lease Exit and Related Charges in this 10-K.

(2) This facility is utilized only by our Games segment.

In addition, we lease smaller facilities in the U.S. and foreign countries, some of which support the operations of all of our business segments while others are dedicated to a specific business segment. We believe that our properties are in good condition, adequate and suitable for the conduct of our business. For additional information regarding our obligations under leases, see Note 16. Commitments and Contingencies, in this 10-K.

Item 3. Legal Proceedings

See Note 16. Commitments and Contingencies, in this 10-K.

Item 4. Mine Safety Disclosures

Not applicable.

PART II.

Item 5. Market for Registrant’s Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities

Our common stock is traded on The NASDAQ Stock Market under the symbol RNWK.

The high and low intraday sales prices for our common stock were as follows:

	Years Ended December 31,			
	2016		2015	
	High	Low	High	Low
First Quarter	\$4.43	\$3.04	\$7.24	\$6.50
Second Quarter	4.65	4.00	7.15	5.40
Third Quarter	5.10	3.97	5.86	3.75
Fourth Quarter	5.14	4.09	4.50	3.75

As of January 31, 2017, there were approximately 175 holders of record of our common stock. Most shares of our common stock are held by brokers and other institutions on behalf of shareholders.

The declaration and payment of any future dividends, as well as the amount thereof, are subject to the discretion of our board of directors and will depend upon our results of operations, financial condition, capital levels, cash requirements, future prospects and other factors deemed relevant by our board of directors. Accordingly, there can be no assurance that we will declare and pay any dividends in the future. No cash dividends were paid in 2016 or 2015.

Comparison of 5 year cumulative total return to shareholders on RealNetworks, Inc., common stock with the cumulative total return on the NASDAQ Composite Index and the Dow Jones U.S. Technology Index for the period beginning on December 31, 2011 and ended on December 31, 2016.

The total return on our common stock and each index assumes the value of each investment was \$100 on December 31, 2011, and that all dividends were reinvested. Return information is historical and not necessarily indicative of future performance.

Item 6. Selected Financial Data

The following selected consolidated financial data should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the Consolidated Financial Statements and Notes to Consolidated Financial Statements included elsewhere in this report.

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	(In thousands, except per share data)				
Consolidated Statements of Operations Data:					
Net revenue	\$120,468	\$125,296	\$156,212	\$206,196	\$258,842
Cost of revenue	64,968	70,297	76,381	79,091	103,731
Extinguishment of liability	—	—	(10,580)	—	—
Gross profit	55,500	54,999	90,411	127,105	155,111
Sale of patents and other technology assets, net of costs	—	—	—	—	116,353
Operating expenses:					
Research and development	29,923	43,626	52,765	60,880	63,194
Sales and marketing	31,608	48,231	66,926	80,011	90,301
General and administrative	27,415	24,549	34,001	36,643	43,891
Restructuring and other charges	1,489	5,279	4,992	5,765	15,225
Lease exit and related charges (gains)	2,239	2,501	880	3,089	3,290
Loss on litigation settlements	—	—	—	11,525	—
Total operating expenses	92,674	124,186	159,564	197,913	215,901
Operating income (loss)	(37,174)	(69,187)	(69,153)	(70,808)	55,563
Other income (expense), net (A)	1,746	(13,494)	(1,382)	16,721	1,796
Income (loss) before income taxes	(35,428)	(82,681)	(70,535)	(54,087)	57,359
Income tax expense (benefit)	1,122	(834)	1,280	4,903	12,518
Net income (loss) attributable to common shareholders	\$(36,550)	\$(81,847)	\$(71,815)	\$(58,990)	\$44,841
Diluted net income (loss) per share attributable to common shareholders	\$(0.99)	\$(2.26)	\$(2.00)	\$(1.66)	\$1.28
Shares used to compute diluted net income (loss) per share	36,781	36,165	35,947	35,553	35,122

(A) Includes a \$21.4 million pretax gain from the sale of equity securities in 2013. Additional details regarding this gain are available in our 2015 10-K.

	As of December 31,				
	2016	2015	2014	2013	2012
	(In thousands)				
Consolidated Balance Sheets Data:					
Cash, cash equivalents, and short-term investments	\$77,052	\$99,129	\$161,706	\$226,155	\$271,414
Working capital	66,304	91,373	136,429	191,522	237,646
Total assets	130,437	161,343	250,299	342,781	433,897
Shareholders’ equity	88,581	120,683	197,198	268,981	342,728

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview

RealNetworks creates innovative applications and services that make it easy to connect with and enjoy digital media. Following a reorganization that took effect in the first quarter of 2016, we manage our business and report revenue and operating income (loss) in three segments: (1) Consumer Media (2) Mobile Services, and (3) Games.

Within our Consumer Media segment, revenue is derived from the sales of our PC-based RealPlayer® products, including RealPlayer Plus and related products, and from the licensing of our intellectual property, primarily our codec technology, including our recently introduced RealMedia High Definition, or RMHD, technology. These products and services are delivered directly to consumers and through partners, such as OEM's and mobile device manufacturers.

Our Mobile Services business generates revenue primarily from the sale of its SaaS services, which include ringback tones, music on demand, and intercarrier messaging. This business also includes revenue related to RealTimes®, our photo and video sharing application that is primarily sold through mobile telecommunication carriers and related partners, which we introduced in May of 2015.

Our Games business, through its GameHouse and Zylom brands, derives revenue from sales of mobile games, games licenses, online games subscription services, and advertising on games sites.

We sold the Slingo and social casino portion of our games business to Gaming Realms plc, a London-based online gaming company, for \$18.0 million in August 2015. The purpose of the sale was to derive value from this business and to allow greater focus on our traditional casual games business. This transaction is further described in Note 3. Acquisitions and Disposals, to the consolidated financial statements included in Item 8 of Part II of this Form 10-K. We allocate certain corporate expenses which are directly attributable to supporting our businesses, including but not limited to a portion of finance, legal, human resources and headquarters facilities, to our reportable segments.

Remaining expenses, which are not directly attributable to supporting the business, are reported as corporate items. These corporate items include restructuring charges, lease exit and related charges, as well as stock compensation expense. Concurrent with the first quarter 2016 segment change described above, we also changed our expense allocation methodology to increase accountability, resulting in an increase in corporate costs allocated to the Consumer Media and Mobile Services businesses. The historical financial information presented below has been recast to reflect the new corporate expense allocation.

In 2016 our consolidated revenue declined by \$4.8 million compared with 2015, due to a \$5.6 million decrease in Games revenue, of which \$4.9 million is related to the Slingo and social casino business that was sold in August of 2015, and a decrease of \$3.6 million in Consumer Media revenue. These decreases were offset, in part, by an increase of \$4.3 million in Mobile Services revenue. See below for further information regarding fluctuations by segment.

As of December 31, 2016, we had \$77.1 million in unrestricted cash, cash equivalents and short-term investments, compared to \$99.1 million as of December 31, 2015. The 2016 decrease of cash, cash equivalents, and short-term investments from December 31, 2015 was due primarily to our ongoing cash flows used in operating activities.

In addition to our revenue growth plans, we have continued to reduce costs and better align our operating expenses with our revenue profile through various restructuring actions, as described below in Consolidated Operating Expenses. These actions drove the \$31.5 million decline in our operating expenses during 2016 compared to 2015.

Summary of Results

Consolidated results of operations were as follows (dollars in thousands):

	2016	2015	2014	2016-2015	%	2015-2014	%
				Change	Change	Change	Change
Total revenue	\$120,468	\$125,296	\$156,212	\$(4,828)	(4)%	\$(30,916)	(20)%
Cost of revenue	64,968	70,297	76,381	(5,329)	(8)%	(6,084)	(8)%
Extinguishment of liability	—	—	(10,580)	—	— %	10,580	100 %
Gross profit	55,500	54,999	90,411	501	1 %	(35,412)	(39)%
Gross margin	46 %	44 %	58 %	2 %		(14)%	
Total operating expenses	92,674	124,186	159,564	(31,512)	(25)%	(35,378)	(22)%
Operating income (loss)	\$(37,174)	\$(69,187)	\$(69,153)	\$32,013	46 %	\$(34)	— %

2016 compared with 2015

Revenue decreased by \$4.8 million, or 4%. The reduction in revenue resulted from a decline of \$5.6 million in our Games segment, and a decline of \$3.6 million in our Consumer Media segment. These declines were offset in part by an increase of \$4.3 million in our Mobile Services segment. For further detail regarding the changes, please see the discussions of segment revenues below. Gross margin increased to 46% from 44%, driven by margin increases in Consumer Media and Mobile Services, offset by decreased margin in our games business due to increased app store fees.

Operating expenses decreased by \$31.5 million as compared to the prior year due to savings of \$11.1 million realized from the sale of the Slingo and social casino games business and from the impact of our continuing cost reduction efforts. These efforts were the primary reason for reductions to personnel and related costs of \$9.3 million, marketing costs of \$7.9 million, restructuring of \$4.1 million and facilities and related depreciation expense, due to the reduction of our corporate office space, of \$2.8 million. These reductions were offset in part by the benefit recognized in the first quarter of 2015 relating to warrants received from Rhapsody, an expense benefit received in 2015 for the release of certain previously accrued sales taxes, and higher stock compensation expense in 2016 resulting from the first quarter 2016 authorization and grant of fully vested equity awards as payment for 2015 incentive bonuses.

2015 compared with 2014

Revenue decreased by \$30.9 million, or 20%. The reduction in revenue resulted from a decline of \$10.5 million in our Consumer Media segment, a decline of \$6.4 million in our Games segment, and a decline of \$14.0 million in our Mobile Services segment. Revenue decreases were due to declining revenue in all three of our segments; subscriptions for our Games business decreased when compared to 2014, but are now stabilizing, and our Consumer Media segment has been negatively impacted by the change in our third party distribution arrangements. Gross margin decreased to 44% from 58%, primarily as a result of our transition to a new third party distribution arrangement in Q2 2014 at significantly lower rates compared to our previous partner and to an increase in our bandwidth expense due to our continued investment in our RealTimes product. Additionally, a higher proportion of lower margin revenue in our music on demand business in Korea and the extinguishment of certain accrued royalty liabilities of \$10.6 million in Q1 2014 both contributed to the decline in gross margin in 2015 when compared with 2014.

Operating expenses decreased by \$35.4 million primarily due to reductions in personnel and related costs of \$24.4 million, reductions in marketing costs of \$7.4 million, and lower facilities and infrastructure related expenses of \$2.0 million.

Segment Operating Results

Consumer Media

Consumer Media segment results of operations were as follows (dollars in thousands):

	2016	2015	2014	2016-2015	%	2015-2014	%
				Change	Change	Change	Change
Total revenue	\$25,051	\$28,613	\$39,121	\$(3,562)	(12)%	\$(10,508)	(27)%
Cost of revenue	7,074	13,257	13,466	(6,183)	(47)%	(209)	(2)%
Gross profit	17,977	15,356	25,655	2,621	17%	(10,299)	(40)%
Gross margin	72%	54%	66%	18%		(12)%	
Total operating expenses	18,399	26,526	41,950	(8,127)	(31)%	(15,424)	(37)%
Operating income (loss)	\$(422)	\$(11,170)	\$(16,295)	\$10,748	96%	\$5,125	31%

2016 compared with 2015

Total Consumer Media revenue in 2016 decreased by \$3.6 million, or 12% as compared to the prior year. Of the decrease, \$2.2 million is due primarily to the timing of contracts and contract renewals for intellectual property licenses. Continuing declines in our subscription products of \$1.5 million also contributed to the decrease in Consumer Media revenue.

Cost of revenue decreased by \$6.2 million, resulting in an increase in gross margin of 18 percentage points. The decrease to cost of revenue was driven by lower bandwidth costs of \$3.8 million, as well as a reduction in salaries and personnel expenses of \$1.0 million and customer support costs of \$0.4 million.

Operating expenses decreased by \$8.1 million compared to the prior year. The decrease was primarily due to reductions in salaries and personnel costs of \$4.5 million, marketing costs of \$2.4 million and professional services of \$1.5 million.

2015 compared with 2014

Total Consumer Media revenue decreased by \$10.5 million, or 27%. This decrease was primarily due to our 2014 transition to a new third party distribution arrangement at significantly lower rates compared to our previous partner. This transition caused our third party distribution revenue to decrease by \$8.8 million when compared to 2014. Our SuperPass subscription revenue declined by \$2.6 million due to fewer subscribers for this legacy product line and RealPlayer license revenue decreased by \$1.6 million. These declines in revenue were offset in part by a \$2.1 million increase in our IP licensing business.

Gross margin decreased by 12 percentage points, due primarily to our transition to a new third party distribution arrangement at significantly lower rates compared to our previous partner and an increase in bandwidth expenses associated with our cloud-based products.

Operating expenses decreased by \$15.4 million primarily due to decreased personnel and related expenses of \$7.1 million and a reduction in marketing expenses of \$7.3 million, mainly related to our third party distribution arrangements.

Mobile Services

Mobile Services segment results of operations were as follows (dollars in thousands):

	2016	2015	2014	2016-2015 Change	% Change	2015-2014 Change	% Change
Total revenue	\$70,278	\$65,935	\$79,981	\$4,343	7 %	\$(14,046)	(18)%
Cost of revenue	50,026	47,834	52,193	2,192	5 %	(4,359)	(8)%
Gross profit	20,252	18,101	27,788	2,151	12 %	(9,687)	(35)%
Gross margin	29	% 27	% 35	% 2	%	(8)	%
Total operating expenses	34,439	44,311	53,527	(9,872)	(22)%	(9,216)	(17)%
Operating income (loss)	\$(14,187)	\$(26,210)	\$(25,739)	\$12,023	46 %	\$(471)	(2)%

2016 compared with 2015

Mobile Services revenue increased by \$4.3 million, or 7%. The increase was driven by increases of \$6.1 million in our low-margin music on demand business in Korea, as well as an increase of \$1.9 million from system implementations for our carrier partners. These increases were offset in part by a decline in revenue of \$2.2 million in our ringback tones business, as well as \$0.8 million from our Helix product, which we no longer sell.

Gross margin improved by \$2.2 million, or 2 percentage points, as compared to the prior year. The increase is due primarily to savings related to our SaaS service offerings, such as professional services, third-party customer service, ringback tones and from our RealTimes mobile services.

Operating expenses decreased by \$9.9 million due to a decrease in personnel and related expenses of \$4.7 million and in marketing expense of \$4.1 million.

2015 compared with 2014

Mobile Services revenue decreased by \$14.0 million, or 18%. This decrease was due to a decrease of \$7.6 million in our Ringback Tone revenue and a decrease in licensing revenue of \$3.8 million due to the cessation of our Helix business in Q4 2014, as well as declines in our intercarrier messaging business of \$1.3 million.

Gross margin declined by 8 percentage points in 2015, due primarily to a higher proportion of lower margin music on demand revenue, compared to the prior year, as well as additional customer service costs.

Operating expenses decreased by \$9.2 million, due primarily to a reduction in personnel and related expenses of \$8.5 million as well as a decrease in infrastructure expense of \$1.2 million. These decreases were offset in part by an increase to marketing expense of \$1.4 million.

Games

Games segment results of operations were as follows (dollars in thousands):

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	2016	2015	2014	2016-2015 Change	% Change	2015-2014 Change	% Change
Total revenue	\$25,139	\$30,748	\$37,110	\$(5,609)	(18)%	\$(6,362)	(17)%
Cost of revenue	7,919	9,291	11,074	(1,372)	(15)%	(1,783)	(16)%
Gross profit	17,220	21,457	26,036	(4,237)	(20)%	(4,579)	(18)%
Gross margin	68%	70%	70%	(2)%		—	
Total operating expenses	19,644	29,086	37,170	(9,442)	(32)%	(8,084)	(22)%
Operating income (loss)	\$(2,424)	\$(7,629)	\$(11,134)	\$5,205	68%	\$3,505	31%

2016 compared with 2015

Games revenue decreased by \$5.6 million, or 18% as compared to the prior year. Of the total decline, \$4.9 million is related to the sale of our Slingo and social casino business in August of 2015, as well as a decrease of \$1.4 million in our subscription game business and \$1.0 million in retail games. These declines were offset in part by an increase of \$2.1 million due to growth in our mobile games business.

Cost of revenue decreased by \$1.4 million, or 15%, as compared to the prior year, due to savings of \$2.0 million realized following the sale of the Slingo and social casino games business. This decrease was offset in part by an increase of \$0.7 million in app store fees related to our mobile revenue growth in the casual games business.

Operating expenses decreased by \$9.4 million, or 32%. This reduction in operating expenses was due to savings of \$11.1 million from the 2015 sale of our Slingo and social casino games business. These decreases were partially offset by increases of \$2.3 million for salaries and related personnel costs from our continuing casual games business.

2015 compared with 2014

Games revenue decreased by \$6.4 million, or 17%. \$1.9 million of the total decline in revenue related to the sale of our Slingo and social casino business in August of 2015. The remaining decline of \$4.5 million was primarily due to a decrease in subscription revenue. The revenues for PC download games and advertising also declined compared to the prior year but were almost entirely offset by an increase in mobile casual games revenue.

Cost of revenue decreased by \$1.8 million, or 16%. \$0.9 million of the total decline in cost of revenue is attributed to the sale of our Slingo and social casino games business. The remaining \$0.9 million decrease was due to the decline in advertising expense and in partner royalties expense for our PC download and subscription games sales channels.

Operating expenses decreased by \$8.1 million, or 22%. These reductions in operating expenses were driven by the sale of our Slingo and social casino business in August of 2015.

Corporate

We allocate certain corporate expenses which are directly attributable to supporting the business to our reportable segments. These allocated corporate expenses include, but are not limited to a portion of finance, legal, human resources and headquarters facilities. Remaining expenses, which are not directly attributable to supporting the business, are reported as corporate items. All restructuring, extinguishment of liability, and lease exit and related charges, are included in the corporate segment.

Corporate segment results of operations were as follows (dollars in thousands):

	2016	2015	2014	2016-2015 Change	% Change	2015-2014 Change	% Change
Cost of revenue	\$(51)	\$(85)	\$(352)	\$34	(40)%	\$267	(76)%
Extinguishment of liability	—	—	(10,580)	—	—	\$10,580	100%
Total operating expenses	20,192	24,263	26,917	(4,071)	(17)%	(2,654)	(10)%
Operating income (loss)	\$(20,141)	\$(24,178)	\$(15,985)	\$4,037	17%	\$(8,193)	(51)%

2016 compared with 2015

Operating expenses decreased by \$4.1 million, or 17%. The decrease was primarily due to \$4.1 million lower restructuring charges in 2016 compared to 2015, as well as a reduction of \$1.5 million in salary, benefit and professional service expenses, and lower expenses for facilities and support services as a result of our reduction of office space at our corporate headquarters and ongoing cost reduction efforts. These decreases were offset in part by the prior year release of \$2.4 million for previously accrued sales taxes, a benefit of \$1.2 million relating to the warrants received from Rhapsody in the first

quarter of 2015 and an increase in stock compensation expense of \$0.8 million in 2016 due in part to the authorization and granting of fully vested equity awards for our 2015 incentive bonuses in the first quarter of 2016.

2015 compared with 2014

In 2014 certain accrued royalty liabilities of \$10.6 million associated with our historical music business, which had originally been recorded based on statutory rates, were extinguished.

Operating expenses decreased by \$2.7 million, or 10%. The decrease was due to a reduction in personnel and related costs of \$3.5 million, including the benefit of \$1.2 million relating to warrants received from Rhapsody, as well as a benefit of \$2.4 million for the release of certain previously accrued sales taxes. These decreases were offset in part by an increase to restructuring expense of \$1.9 million

Consolidated Operating Expenses

Our operating expenses consist primarily of salaries and related personnel costs including stock based compensation, consulting fees associated with product development, sales commissions, amortization of certain intangible assets capitalized in our acquisitions, professional service fees, advertising costs, and restructuring charges. Operating expenses were as follows (dollars in thousands):

	2016	2015	2014	2016-2015 % Change	2015-2014 % Change
Research and development	\$29,923	\$43,626	\$52,765	\$(13,703) (31)%	\$(9,139) (17)%
Sales and marketing	31,608	48,231	66,926	(16,623) (34)%	(18,695) (28)%
General and administrative	27,415	24,549	34,001	2,866 12%	(9,452) (28)%
Restructuring and other charges	1,489	5,279	4,992	(3,790) (72)%	287 6%
Lease exit and related charges	2,239	2,501	880	(262) (10)%	1,621 184%
Total consolidated operating expenses	\$92,674	\$124,186	\$159,564	\$(31,512) (25)%	\$(35,378) (22)%

Research and development expenses decreased by \$13.7 million, or 31%, in the year ended 2016 as compared to 2015. The decrease was primarily due to a \$5.1 million reduction from the sale of our Slingo and social casino games business, a \$5.1 million reduction in personnel and related expenses, and a \$2.9 million decrease in infrastructure costs, including reduced expenses for facilities and support services as a result of reduction of office space at our corporate headquarters.

Research and development expenses decreased by \$9.1 million, or 17%, in the year ended 2015 as compared to 2014, primarily due to reduced personnel and related costs savings of \$8.4 million, of which \$3.4 million was related to our Slingo and social casino business.

Sales and marketing expenses decreased by \$16.6 million, or 34%, in the year ended 2016, compared with 2015. The decrease was primarily due to a \$4.9 million reduction from the sale of our Slingo and social casino games business, a decrease of \$7.6 million in marketing expenses, a \$2.6 million decrease in personnel and related expenses, as well as decreased facilities and support services.

Sales and marketing expenses decreased by \$18.7 million, or 28%, in the year ended 2015, compared with 2014. The decrease was primarily due to reductions in personnel and related expenses of \$9.7 million and decreased marketing expenses of \$7.3 million, mainly related to the change in our third party distribution arrangements. The Slingo and social casino business contributed \$1.6 million of reduced personnel and related expenses, and \$1.4 million of reduced marketing expenses.

General and administrative expenses increased by \$2.9 million, or 12%, in the year ended 2016, compared with 2015. The increased costs year over year are partially due to the prior year release of \$2.4 million for previously accrued sales taxes, the impact of the benefit received in 2015 relating to warrants received from Rhapsody of \$1.2 million, and accelerated depreciation expense in 2016 due in part to a reduction in space at our corporate headquarters. These increases were offset in part by further reductions in personnel and related expenses of \$1.6 million and savings recognized from the sale of our Slingo and social casino games business of \$1.2 million.

General and administrative expenses decreased by \$9.5 million, or 28%, in the year ended 2015, compared with 2014. The decrease was primarily related to a reduction in personnel and related expenses of \$6.3 million and an expense benefit of \$2.4 million in 2015 for the release of certain previously accrued sales taxes.

Restructuring and other charges and Lease exit and related charges consist of costs associated with the ongoing reorganization of our business operations and our ongoing expense re-alignment efforts. The restructuring expense

amounts in

25

all years primarily related to severance costs due to workforce reductions. For additional details on these charges see Note 10. Restructuring Charges and Note 11. Lease Exit and Related Charges.

Other Income (Expenses)

Other income (expenses), net was as follows (dollars in thousands):

	2016	2015	2014	2016-2015 % Change	2015-2014 % Change
Interest income, net	\$449	\$680	\$556	\$(231) (34)%	\$124 22%
Gain (loss) on investments, net	8,473	(159)	2,371	8,632 NM	(2,530) (107)%
Equity in net loss of Rhapsody	(6,533)	(14,521)	(4,452)	7,988 (55)%	(10,069) 226%
Other income (expense), net	(643)	506	143	(1,149) (227)%	363 254%
Total other income (expense), net	\$1,746	\$(13,494)	\$(1,382)	\$15,240 113%	\$(12,112) (876)%

Gain (loss) on investments, net, increased \$8.6 million as compared to the prior-year period. The increase was due to the collection and recognition of the first anniversary payment of \$4.0 million from our 2015 sale of the Slingo and social casino business, the net gain of \$2.5 million from the sale of our remaining J-Stream investment, and a gain of \$2.0 million, net of transaction costs, from the sale of a domain name. For additional details on the J-Stream transactions see Note 5. Fair Value Measurements.

As described further in Note 4. Rhapsody Joint Venture, we account for our investment in Rhapsody under the equity method of accounting. The net carrying value of our investment in Rhapsody is not necessarily indicative of the underlying fair value of our investment.

Income Taxes

During the years ended December 31, 2016, 2015, and 2014, we recognized income tax expense of \$1.1 million, income tax benefit of \$0.8 million, and income tax expense of \$1.3 million, respectively, related to U.S. and foreign income taxes.

The tax expense for the year ended December 31, 2016 was largely the result of foreign withholding taxes and income taxes in foreign jurisdictions. The tax benefit for the year ended December 31, 2015 was largely the result of an income tax benefit related to the sale of the Slingo and social casino games business in the quarter ended September 30, 2015, offset by foreign withholding taxes and income taxes in foreign jurisdictions. The tax expense for the year ended December 31, 2014 was largely the result of foreign withholding taxes and income taxes in foreign jurisdictions.

We assess the likelihood that our deferred tax assets will be recovered based upon our consideration of many factors, including the current economic climate, our expectations of future taxable income, our ability to project such income, and the appreciation of our investments and other assets. We maintain a partial valuation allowance of \$176.3 million for our deferred tax assets due to uncertainty regarding their realization as of December 31, 2016. The net increase in the valuation allowance since December 31, 2015 of \$2.4 million was the result of an increase in current year deferred tax assets for which the Company maintains a valuation allowance.

We generate income in a number of foreign jurisdictions, some of which have higher tax rates and some of which have lower tax rates relative to the U.S. federal statutory rate. Changes to the blend of income between jurisdictions with higher or lower effective tax rates than the U.S. federal statutory rate could affect our effective tax rate. For the year ended December 31, 2016, decreases in tax expense from income generated in foreign jurisdictions with lower tax rates in comparison to the U.S. federal statutory rate were offset by increases in tax expense from income generated in foreign jurisdictions having comparable, or higher tax rates in comparison to the U.S. federal statutory rate.

As of December 31, 2016 and 2015, we had \$0.5 million and \$0.3 million of unrecognized tax benefits, respectively. The increase in unrecognized tax benefits is due to federal research and development tax credit carryforward risks. As of December 31, 2016, there are no unrecognized tax benefits remaining that would affect our effective tax rate if recognized, as the offset would increase the valuation allowance. We do not anticipate that the total amount of unrecognized tax benefits will significantly change within the next twelve months.

We file numerous consolidated and separate income tax returns in the U.S. including federal, state and local, as well as foreign jurisdictions. With few exceptions, we are no longer subject to U.S. federal income tax examinations for tax years before 2013 or state, local, or foreign income tax examinations for years before 1993. We are currently under

audit by various states and foreign jurisdictions for certain tax years subsequent to 1993.

Geographic Revenue

Revenue by geographic region was as follows (dollars in thousands):

	2016	2015	2014	2016-2015 Change	% Change	2015-2014 Change	% Change
United States	\$41,505	\$46,893	\$61,660	\$ (5,388)	(11)%	\$ (14,767)	(24)%
Europe	13,700	15,166	26,575	(1,466)	(10)%	(11,409)	(43)%
Korea	43,236	37,832	39,852	5,404	14 %	(2,020)	(5)%
Rest of World	22,027	25,405	28,125	(3,378)	(13)%	(2,720)	(10)%
Total Revenue	\$120,468	\$125,296	\$156,212	\$ (4,828)	(4)%	\$ (30,916)	(20)%

Revenue in the U.S. decreased by \$5.4 million, or 11%, in the year-ended 2016, compared with 2015. The decrease was primarily due to the sale of the Slingo and social casino games business in 2015, which contributed \$4.9 million to the decline.

Revenue in the U.S. declined by \$14.8 million, or 24%, in the year-ended 2015, compared with 2014. The decline was mainly due to a reduction in revenue from the change in our third party software agreements of \$7.3 million and from our Ringback Tones business of \$4.6 million. The sale of our Slingo and social casino business contributed \$1.9 million to the decline.

Revenue in Europe decreased by \$1.5 million, or 10%, in the year-ended 2016, compared with 2015, primarily due to lower revenue in our continuing games business as compared to the prior period.

Revenue in Europe decreased by \$11.4 million, or 43%, in the year-ended 2015, compared with 2014. The decrease was primarily due to lower revenue from our Games business of \$5.0 million and a decline in our SaaS revenue of \$4.1 million.

Revenue in Korea increased by \$5.4 million, or 14%, in the year-ended 2016, compared with 2015. The increase was due to a \$6.1 million increase in our low-margin music on demand business, offset in part by other declines in our Mobile Services business.

Revenue in Korea decreased by \$2.0 million, or 5%, in the year-ended 2015, compared with 2014. The decrease was due to a decline from intellectual property licensing of \$1.5 million.

Revenue in the rest of world decreased by \$3.4 million, or 13%, in the year-ended 2016, compared with 2015. The decrease was due to lower revenues of \$1.6 million in our Consumer Media business and \$1.5 million in our Mobile Services business.

Revenue in the rest of world decreased by \$2.7 million, or 10%, in the year-ended 2015, compared with 2014. The decrease was due to various declines and the shutdown of our Helix business, offset by an increase in our IP revenue in China of \$2.8 million.

Liquidity and Capital Resources

The following summarizes working capital, cash, cash equivalents, short-term investments, and restricted cash and investments (in thousands):

	December 31,	
	2016	2015
Working capital	\$66,304	\$91,373
Cash, cash equivalents, and short-term investments	77,052	99,129
Restricted cash and investments	2,700	2,890

The decrease in 2016 working capital as compared to December 31, 2015, which includes cash, cash equivalents, and short term investments, was primarily due to our ongoing negative cash flow used in our operations of \$24.3 million.

The following summarizes cash flow activity (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Cash provided by (used in) operating activities	\$(24,328)	\$(68,982)	\$(60,244)
Cash provided by (used in) investing activities	11,552	15,728	15,561
Cash provided by (used in) financing activities	(345)	341	(637)

Cash used in operating activities consisted of net income (loss) adjusted for certain non-cash items such as depreciation and amortization, as well as the effect of changes in certain operating assets and liabilities.

Cash used in operating activities was \$44.7 million less in 2016 as compared to 2015. The decrease in cash used in operating activities was primarily due to the improvement in our operating loss in 2016 as compared to 2015. Further contributing to the decrease was the change in operating assets and liabilities during 2016 compared to 2015. In the current year, we used cash of \$1.2 million from the net change in operating assets and liabilities while in 2015 the net change in operating assets and liabilities used \$16.5 million.

Cash used in operating activities was \$8.7 million more in 2015 than in 2014. This increase in cash used was due mainly to the changes in operating assets and liabilities. In 2015, we used cash of \$16.5 million from the net change, while in 2014 the net change provided \$2.5 million. This increased usage was offset in part by the improvement in our operating loss in 2015 as compared to 2014 when excluding the non-cash benefit from the liability extinguishment in 2014.

For the year ended December 31, 2016, cash provided by investing activities of \$11.6 million was due to sales and maturities, net of purchases, of short-term investments totaling \$8.5 million, cash proceeds from the sale of our Slingo and social casino games business of \$4.0 million, cash proceeds of \$3.3 million from the sale of J-Stream, and cash proceeds from the sale of a domain name of \$2.1 million. These proceeds were offset in part by the advance paid to Rhapsody of \$3.5 million and purchases of equipment, software and leasehold improvements of \$2.4 million.

For the year ended December 31, 2015, cash provided by investing activities of \$15.7 million was due to sales and maturities, net of purchases, of short-term investments totaling \$6.6 million and the cash proceeds from the sale of our Slingo and social casino games business of \$10.0 million.

For the year ended December 31, 2014, cash provided by investing activities of \$15.6 million was mainly from sales and maturities, net of purchases, of short-term investments totaling \$16.5 million. In addition, cash proceeds from the sale of available for sale securities of \$2.8 million in 2014 mainly offset purchases of equipment, software and leasehold improvements of \$2.5 million.

Financing activities for the year ended December 31, 2016 used cash totaling \$0.3 million which was from \$0.9 million for tax payments from shares withheld upon vesting of restricted stock offset in part by proceeds received from the issuance of common stock of \$0.5 million.

Financing activities for the year ended December 31, 2015 provided cash totaling \$0.3 million which was mainly from proceeds received from the issuance of common stock of \$0.4 million, offset by \$0.1 million for tax payments from shares withheld upon vesting of restricted stock.

Financing activities for the year ended December 31, 2014 used cash totaling \$0.6 million which was mainly due to tax payments from shares withheld upon vesting of restricted stock and the payment of contingent consideration related to acquisitions of businesses, partially offset by proceeds received from the issuance of common stock.

While we currently have no planned significant capital expenditures for 2017 other than those in the ordinary course of business, we do have contractual commitments for future payments related to office leases.

We believe that our unrestricted current cash, cash equivalents, and short-term investments will be sufficient to meet our anticipated cash needs for working capital and capital expenditures for at least the next 12 months.

In the future, we may seek to raise additional funds through public or private equity financing, or through other sources such as future credit facilities. Such sources of funding may or may not be available to us at commercially reasonable terms. The sale of additional equity securities could result in dilution to our shareholders. In addition, in the future, we may enter into cash or stock acquisition transactions or other strategic transactions that could reduce cash available to fund our operations or result in dilution to shareholders.

Our cash equivalents and short-term investments consist of investment-grade securities, as specified in our investment policy guidelines. The policy limits the amount of credit exposure to any one non-U.S. government or non-U.S. agency issue or issuer to a maximum of 5% of the total portfolio. These securities are subject to interest rate risk and will decrease in value if interest rates increase. Because we have historically had the ability to hold our fixed income investments until maturity, we do not expect our operating results or cash flows to be significantly affected by a sudden change in market interest rates in our securities portfolio.

We conduct our operations primarily in five functional currencies: the U.S. dollar, the Korean won, the Japanese yen, the British pound and the euro. We currently do not actively hedge our foreign currency exposures and are therefore

subject to the risk of exchange rate fluctuations. We are exposed to foreign exchange rate fluctuations as the financial results of foreign subsidiaries are translated into U.S. dollars in consolidation. Our exposure to foreign exchange rate fluctuations also arises from intercompany payables and receivables to and from our foreign subsidiaries.

As of December 31, 2016, approximately \$18.8 million of the \$77.1 million of cash, cash equivalents, and short-term investments was held by our foreign subsidiaries. If these funds are needed for our operations in the U.S., we may be required to accrue and pay U.S. taxes to repatriate these funds. However, our intent is to permanently reinvest these funds outside of the U.S. and our current plans do not demonstrate a need to repatriate them to fund our U.S. operations. Additionally, the Company currently has significant net operating losses and other tax attributes that could be used to offset potential U.S. income tax that could result if these amounts were distributed to the U.S. We utilize a variety of tax planning and financing strategies in an effort to ensure that our worldwide cash is available in the locations in which it is needed. We do not expect restrictions or potential taxes on repatriation of amounts held outside of the U.S. to have a material effect on our overall liquidity, financial condition or results of operations.

As of December 31, 2016, we have not provided for U.S. federal and state income taxes on approximately \$13.1 million of undistributed earnings of our foreign subsidiaries, since such earnings are considered permanently reinvested outside the U.S. or may be remitted tax-free to the U.S. If these amounts were distributed to the U.S. in the future in the form of dividends or otherwise, we could be subject to additional U.S. income taxes. It is not practicable to determine the U.S. federal income tax liability or benefit on such earnings due to the timing of such future distributions, the availability of foreign tax credits, and the complexity of the computation if such earnings were not deemed to be permanently reinvested. If future events, including material changes in estimates of cash, working capital, and long-term investment requirements necessitate that these earnings be repatriated, an additional provision for U.S. income and foreign withholding taxes may be necessary.

Contractual Obligations

Please refer to Note 16. Commitments and Contingencies, for details on our contractual obligations, which consist of operating leases for office facilities. For income tax liabilities for uncertain tax positions we cannot make a reasonably reliable estimate of the amount and period of any related future payments. As of December 31, 2016 we had \$0.5 million of gross unrecognized tax benefits for uncertain tax positions.

Off-Balance Sheet Arrangements

We have operating lease obligations for office facility leases with future cash commitments that are not required to be recorded on our consolidated balance sheet. Accordingly, these operating lease obligations constitute off-balance sheet arrangements. In addition, since we do not maintain accruals associated with certain guarantees, as discussed in Note 17. Guarantees, those guarantee obligations also constitute off-balance sheet arrangements.

Critical Accounting Policies and Estimates

The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reported period. Our critical accounting policies and estimates are as follows:

- Revenue recognition;
- Estimating music publishing rights and music royalty accruals;
- Estimating recoverability of deferred costs;
- Estimating allowances for doubtful accounts and sales returns;
- Estimating losses on excess office facilities;
- Valuation of equity method investments;
- Valuation of definite-lived assets;
- Valuation of goodwill;
- Stock-based compensation; and
- Accounting for income taxes.

Revenue Recognition. We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable, and collection is probable. Physical products are considered delivered to the customer once they have been shipped and title and risk of loss have been transferred. For online sales, the products or services are considered delivered at the time the product or services are made available,

digitally, to the end user.

We recognize revenue on a gross or net basis. In most arrangements, we contract directly with end user customers, and are the primary obligor. In such arrangements, we recognize revenue on a gross basis. In some cases, we utilize third-party distributors who are the primary obligor to sell products or services directly to end user customers. In such instances, we recognize revenue on a net basis.

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In our direct to consumer operations, we derive revenue primarily through (1) subscriptions sold by our Games segment and subscriptions of SuperPass within our Consumer Media segment (2) sales of content downloads, software and licenses offered by our Consumer Media, Mobile Services, and Games segments and (3) the sale of advertising and the distribution of third-party products on our websites and in our games.

Consumer subscription products are paid in advance, typically for monthly, quarterly or annual duration. Subscription revenue is recognized ratably over the related subscription time period. Revenue from sales of content downloads, software and licenses is recognized at the time the product is made available, digitally, to the end user. Revenue generated from advertising on our websites and from advertising and the distribution of third-party products included in our products is recognized as revenue at the time of delivery.

We also generate revenue through business-to-business channels by providing services within our Mobile Services segment enabling mobile carriers to deliver audio and video content to their customers and by selling software licenses and products and related support and other services. Revenue generated from services provided to mobile carriers that enable the delivery of audio and video content to their customers is recognized as the services are provided. Setup fees to build these services are recognized ratably upon launch of the service over the remaining expected term of the service.

Non-software revenue arrangements containing multiple elements are divided into separate units of accounting, after being evaluated for specific criteria. If the criteria for separation are met, revenue is allocated to the individual units using the relative price method. If the criteria are not met, the elements are treated as one unit of accounting and revenue recognition is delayed until all elements have been delivered. In the case of revenue arrangements containing software, elements are divided into separate units of accounting only when vendor-specific objective evidence has been established. In cases where vendor-specific objective evidence has not been established, undelivered elements are combined into one unit of accounting and are not recognized in revenue until all elements have been delivered.

Estimating Music Publishing Rights and Music Royalty Accruals. We have made estimates of amounts that may be owed related to music royalties for our historical domestic and international music services. Material differences may impact the amount and timing of our expense for any period if management made different judgments or utilized different estimates. Under copyright law, we may be required to pay licensing fees for digital sound recordings and compositions we have delivered. Copyright law generally does not specify the rate and terms of the licenses, which are determined by voluntary negotiations among the parties or, for certain compulsory licenses where voluntary negotiations are unsuccessful, by arbitration. Our estimates are based on contracted or statutory rates, when established, or management's best estimates based on facts and circumstances regarding the specific music services and agreements in similar geographies or with similar agencies. While we have based our estimates on historical experience and on various other assumptions that management believes to be reasonable under the circumstances, actual results may differ materially from these estimates under different assumptions or conditions.

During the quarter ended March 31, 2014, certain accrued royalty liabilities of \$10.6 million associated with our historical music business, which had originally been recorded based on statutory rates, were extinguished.

Estimating Recoverability of Deferred Costs. We defer costs on projects for service revenue and system sales. Deferred costs consist primarily of direct and incremental costs to customize and install systems, as defined in individual customer contracts, including costs to acquire hardware and software from third parties and payroll costs for our employees and other third parties. We recognize such costs as a component of cost of revenue, the timing of which is dependent upon the revenue recognition policy by contract. For revenue recognized under the completed contract method, costs are deferred until the products are delivered, or upon completion of services or, where applicable, customer acceptance. For revenue recognized under the percentage of completion method, costs are recognized as products are delivered or services are provided in accordance with the percentage of completion calculation. For revenue recognized ratably over the term of the contract, costs are recognized ratably over the term of the contract, commencing on the date of revenue recognition. At each balance sheet date, we review deferred costs to ensure they are ultimately recoverable. Any anticipated losses on uncompleted contracts are recognized when evidence indicates the estimated total cost of a contract exceeds its estimated total revenue.

Assessing the recoverability of deferred project costs is based on significant assumptions and estimates, including future revenue and cost of sales. Significant or sustained decreases in revenue or increases in cost of sales in future periods could result in impairments of deferred project costs. We cannot accurately predict the amount and timing of

any such impairments. Should the value of deferred project costs become impaired, we would record the appropriate charge, which could have a material adverse effect on our financial condition or results of operations.

Estimating Allowances for Doubtful Accounts and Sales Returns. We make estimates of the uncollectible portion of our accounts receivable. We specifically analyze the age of accounts receivable and historical bad debts, customer credit-worthiness and current economic trends when evaluating the adequacy of the allowance for doubtful accounts. Similarly, we make estimates of potential future product returns related to current period revenue. We analyze historical returns, current economic trends, and changes in customer demand and acceptance of our products when evaluating the adequacy of the sales returns

allowance. Significant judgments and estimates are made and used in connection with establishing allowances for doubtful accounts and sales returns. Material differences may result in the amount and timing of our revenue for any period if we were to make different judgments or utilize different estimates or actual future experience was different from the judgments and estimates.

Estimating losses on excess office facilities. We make significant estimates in determining the appropriate amount of accrued loss on excess office facilities, including estimates of sublease income expected to be received. If we make different estimates, our loss on excess office facilities could be significantly different from that recorded, which could have a material impact on our operating results.

Valuation of Equity Method Investments. We use the equity method of accounting for investments in circumstances where we have the ability to exert significant influence, but not control, over an investee or joint venture. We record our percentage interest in the investee's recorded income or loss and changes in the investee's capital under this method, which will increase or decrease the reported value of our investment. See Note 4. Rhapsody Joint Venture, for additional information. We initially record our investment based on a fair value analysis of the investment. We evaluate impairment of an investment valued under the equity method if events and circumstances warrant. An impairment charge would be recorded if a decline in value of an equity investment below its carrying amount were determined to be other than temporary. In determining if a decline is other than temporary, we consider factors such as the length of time and extent to which the fair value of the investment has been less than the carrying amount of the investee or joint venture, the near-term and longer-term operating and financial prospects of the investee or joint venture and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery.

Valuation of Definite-Lived Assets. Definite-lived assets consist primarily of property, plant and equipment, as well as amortizable intangible assets acquired in business combinations. Definite-lived assets are amortized on a straight line basis over their estimated useful lives. We review definite-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of such assets may not be recoverable. Recoverability of these assets is measured by comparison of their carrying amount to future undiscounted cash flows the assets are expected to generate. If definite-lived assets are considered to be impaired, the impairment to be recognized equals the amount by which the carrying value of the assets exceeds their fair market value.

The impairment analysis of definite-lived assets is based upon estimates and assumptions relating to our future revenue, cash flows, operating expenses, costs of capital and capital purchases. These estimates and assumptions are complex and subject to a significant degree of judgment with respect to certain factors including, but not limited to, the cash flows of our long-term operating plans, market and interest rate risk, and risk-commensurate discount rates and cost of capital. Significant or sustained declines in future revenue or cash flows, or adverse changes in our business climate, among other factors, and their resulting impact on the estimates and assumptions relating to the value of our definite-lived assets could result in the need to perform an impairment analysis in future periods which could result in a significant impairment. While we believe our estimates and assumptions are reasonable, due to their complexity and subjectivity, these estimates and assumptions could vary from period to period. Changes in these estimates and assumptions could materially affect the estimate of future undiscounted cash flows and related fair market values of these assets and result in significant impairments, which could have a material adverse effect on our financial condition or results of operations. For further discussion, please see the risk factor entitled, "Any impairment to our goodwill and definite-lived assets could result in a significant charge to our earnings" under Item 1A Risk Factors.

Valuation of Goodwill. We test goodwill for impairment on an annual basis, in our fourth quarter, or more frequently if circumstances indicate reporting unit carrying values may exceed their fair values. Circumstances that may indicate a reporting unit's carrying value exceeds its fair value include, but are not limited to: poor economic performance relative to historical or projected future operating results; significant negative industry, economic or company specific trends; changes in the manner of our use of the assets or the plans for our business; and loss of key personnel.

When evaluating goodwill for impairment, based upon our annual test or due to changes in circumstances described above, we first perform a qualitative assessment to determine if the fair value of a reporting unit is more likely than not less than the reporting unit's carrying amount including goodwill. If this assessment indicates it is more likely than not, we then compare the carrying value of the reporting unit to the estimated fair value of the reporting unit. If the

carrying value of the reporting unit exceeds the estimated fair value, we then calculate the implied estimated fair value of goodwill for the reporting unit and compare it to the carrying amount of goodwill for the reporting unit. If the carrying amount of goodwill exceeds the implied estimated fair value, an impairment charge to current operations is recorded to reduce the carrying value to implied estimated value.

Significant judgments and estimates are required in determining the reporting units and assessing the fair value of the reporting units. These estimates and assumptions are complex and subject to a significant degree of judgment with respect to

certain factors including, but not limited to, the cash flows of long-term operating plans, market and interest rate risk, and risk-commensurate discount rates and cost of capital.

Stock-Based Compensation. Stock-based compensation cost is estimated at the grant date based on the award's fair value and is recognized as expense over the requisite service period, which is the vesting period. For stock options, the fair value is calculated using the Black-Scholes option-pricing model or other appropriate valuation models such as Monte Carlo simulation. The valuation models require various highly judgmental assumptions including volatility in our common stock price and expected option life. If any of the assumptions used in the valuation models change significantly, stock-based compensation expense for new awards may differ materially in the future from the amounts recorded in our consolidated statement of operations. For all awards, we are required to estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. We use historical data to estimate pre-vesting forfeitures.

Accounting for Income Taxes. We use the asset and liability method of accounting for income taxes. Under this method, income tax expense is recognized for the amount of taxes payable or refundable for the current year. In addition, deferred income tax expense and deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial reporting and tax basis of assets and liabilities and for operating losses and tax credit carryforwards. Deferred tax assets and liabilities and operating loss and tax credit carryforwards are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences and operating loss and tax credit carryforwards are expected to be recovered or settled. We must make assumptions, judgments and estimates to determine the current and deferred provision for income taxes, deferred tax assets and liabilities and any valuation allowance to be recorded against deferred tax assets. Our judgments, assumptions, and estimates relative to the current provision for income tax take into account current tax laws, our interpretation of current tax laws and possible outcomes of future audits conducted by foreign and domestic tax authorities. Changes in tax law or our interpretation of tax laws and future tax audits could significantly impact the amounts provided for income taxes in our consolidated financial statements.

Each reporting period we must periodically assess the likelihood that our deferred tax assets will be recovered from future sources of taxable income, and to the extent that recovery is not more likely than not, a valuation allowance must be established. The establishment of a valuation allowance and increases to such an allowance result in either increases to income tax expense or reduction of income tax benefit in the statement of operations and comprehensive income. In certain instances, changes in the valuation allowance may be allocated directly to the related components of shareholders' equity on the consolidated balance sheet. Factors we consider in making such an assessment include, but are not limited to, past performance and our expectation of future taxable income, macroeconomic conditions and issues facing our industry, existing contracts, our ability to project future results and any appreciation of our investments and other assets.

As of December 31, 2016, \$18.8 million of the \$77.1 million of cash, cash equivalents, and short-term investments was held by our foreign subsidiaries.

As of December 31, 2016, we have not provided for U.S. federal and state income taxes on certain undistributed earnings of our foreign subsidiaries, since such earnings are considered indefinitely reinvested outside the U.S. or may be remitted tax-free to the U.S. If these amounts were distributed to the U.S., in the form of dividends or otherwise, RealNetworks could be subject to additional U.S. income and foreign withholding taxes. It is not practicable to determine the foreign withholding and U.S. federal income tax liability or benefit on such earnings due to the timing of such future distributions, the availability of foreign tax credits, and the complexity of the computation if such earnings were not deemed to be permanently reinvested. If future events, including material changes in estimates of cash, working capital, and long-term investment requirements necessitate that these earnings be distributed, an additional provision for U.S. income and foreign withholding taxes may be necessary.

Recently Issued Accounting Standards

See Note 2. Recent Accounting Pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

The following discussion about our market risk involves forward-looking statements. All statements that do not relate to matters of historical fact should be considered forward-looking statements. Actual results could differ materially from those projected in any forward-looking statements.

Interest Rate Risk. Our exposure to interest rate risk from changes in market interest rates relates primarily to our short-term investment portfolio. Our short-term investments consist of investment grade debt securities as specified in our investment policy. Investments in both fixed and floating rate instruments carry a degree of interest rate risk. The fair value of fixed rate securities may be adversely impacted due to a rise in interest rates, while floating rate securities may produce less income than expected if interest rates fall. Additionally, a declining rate environment creates reinvestment risk because as securities mature the proceeds are reinvested at a lower rate, generating less interest income. See Note 5. Fair Value Measurements for additional information. Due in part to these factors, our future interest income may be adversely impacted due to changes in interest rates. In addition, we may incur losses in principal if we are forced to sell securities that have declined in market value due to changes in interest rates. Because we have historically had the ability to hold our short-term investments until maturity, we would not expect our operating results or cash flows to be significantly impacted by a sudden change in market interest rates. There have been no material changes in our investment methodology regarding our cash equivalents and short-term investments during the quarter ended December 31, 2016. Based on our cash, cash equivalents, short-term investments, and restricted cash equivalents as of December 31, 2016, a hypothetical 10% increase/decrease in interest rates would not increase/decrease our annual interest income or cash flows by more than a nominal amount.

Investment Risk. As of December 31, 2016, we had an investment in voting capital stock of a privately held technology company for business and strategic purposes. See Note 1. Description of Business and Summary of Significant Accounting Policies - Equity Method Investments, and Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Policies and Estimates (Valuation of equity method investments) in this 10-K for details on our accounting treatment for this investment, including the analysis of other-than-temporary impairments.

Foreign Currency Risk. We conduct business internationally in several currencies and thus are exposed to adverse movements in foreign currency exchange rates.

Our exposure to foreign exchange rate fluctuations arise in part from: (1) translation of the financial results of foreign subsidiaries into U.S. dollars in consolidation; (2) the remeasurement of non-functional currency assets, liabilities and intercompany balances into U.S. dollars for financial reporting purposes; and (3) non-U.S. dollar denominated sales to foreign customers. We manage a portion of these risks through the use of financial derivatives, but fluctuations could impact our results of operations and financial position.

Where appropriate, we manage foreign currency risk for certain material short-term intercompany balances through the use of foreign currency forward contracts. These contracts require us to exchange currencies at rates agreed upon at the contract's inception. Because the impact of movements in currency exchange rates on forward contracts offsets the related impact on the short-term intercompany balances, these financial instruments help alleviate the risk that might otherwise result from certain changes in currency exchange rates. We do not designate our foreign exchange forward contracts related to short-term intercompany accounts as hedges and, accordingly, we adjust these instruments to fair value through results of operations. However, we may periodically hedge a portion of our foreign exchange exposures associated with material firmly committed transactions, long-term investments, highly predictable anticipated exposures and net investments in foreign subsidiaries. To the extent we continue to experience adverse economic conditions, our unhedged exposures are impacted by movements in currency exchange rates and we may record losses related to such unhedged exposures in future periods that may have a material adverse effect on our financial condition and results of operations.

Our foreign currency risk management program reduces, but does not entirely eliminate, the impact of currency exchange rate movements.

We have cash balances denominated in foreign currencies which are subject to foreign currency fluctuation risk. The majority of our foreign currency denominated cash is held in Korean won and euros. A hypothetical 10% increase or decrease in the Korean won and euro relative to the U.S. dollar as of December 31, 2016 would not result in a material impact on our financial position, results of operations or cash flows.

Item 8. Financial Statements and Supplementary Data

REALNETWORKS, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(In thousands, except per share data)

	December 31, 2016	December 31, 2015
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 33,721	\$ 47,315
Short-term investments	43,331	51,814
Trade accounts receivable, net of allowances	22,162	22,511
Deferred costs, current portion	760	460
Prepaid expenses and other current assets	4,910	7,140
Total current assets	104,884	129,240
Equipment and software	46,231	66,702
Leasehold improvements	3,317	3,122
Total equipment, software, and leasehold improvements	49,548	69,824
Less accumulated depreciation and amortization	44,294	61,024
Net equipment, software, and leasehold improvements	5,254	8,800
Restricted cash equivalents and investments	2,700	2,890
Available for sale securities	—	1,721
Other assets	1,742	2,307
Deferred costs, non-current portion	1,246	212
Deferred tax assets, net	816	957
Other intangible assets, net	938	2,136
Goodwill	12,857	13,080
Total assets	\$ 130,437	\$ 161,343
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 18,225	\$ 17,050
Accrued and other current liabilities	15,425	17,320
Commitment to Rhapsody	1,500	—
Deferred revenue, current portion	3,430	3,497
Total current liabilities	38,580	37,867
Deferred revenue, non-current portion	240	105
Deferred rent	748	620
Deferred tax liabilities	87	88
Other long-term liabilities	2,201	1,980
Total liabilities	41,856	40,660
Commitments and contingencies		
Shareholders' equity:		
Preferred stock, \$0.001 par value, no shares issued and outstanding:		
Series A: authorized 200 shares	—	—
Undesignated series: authorized 59,800 shares	—	—
Common stock, \$0.001 par value authorized 250,000 shares; issued and outstanding 37,501 shares in 2016 and 36,298 shares in 2015	37	36
Additional paid-in capital	633,928	627,316
Accumulated other comprehensive loss	(61,645	) (59,480)
Retained deficit	(483,739	) (447,189)

Total shareholders' equity	88,581	120,683
Total liabilities and shareholders' equity	\$ 130,437	\$ 161,343
See accompanying notes to consolidated financial statements.		

REALNETWORKS, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)

(In thousands, except per share data)

	Years Ended December 31,		
	2016	2015	2014
Net revenue (A)	\$120,468	\$125,296	\$156,212
Cost of revenue (B)	64,968	70,297	76,381
Extinguishment of liability	—	—	(10,580)
Gross profit	55,500	54,999	90,411
Operating expenses:			
Research and development	29,923	43,626	52,765
Sales and marketing	31,608	48,231	66,926
General and administrative	27,415	24,549	34,001
Restructuring and other charges	1,489	5,279	4,992
Lease exit and related charges	2,239	2,501	880
Total operating expenses	92,674	124,186	159,564
Operating income (loss)	(37,174)	(69,187)	(69,153)
Other income (expenses):			
Interest income, net	449	680	556
Gain (loss) on sale of equity and other investments, net	8,473	(159)	2,371
Equity in net loss of Rhapsody investment	(6,533)	(14,521)	(4,452)
Other income (expense), net	(643)	506	143
Total other income (expenses), net	1,746	(13,494)	(1,382)
Income (loss) before income taxes	(35,428)	(82,681)	(70,535)
Income tax expense (benefit)	1,122	(834)	1,280
Net income (loss)	\$(36,550)	\$(81,847)	\$(71,815)
Basic net income (loss) per share	\$(0.99)	\$(2.26)	\$(2.00)
Diluted net income (loss) per share	\$(0.99)	\$(2.26)	\$(2.00)
Shares used to compute basic net income (loss) per share	36,781	36,165	35,947
Shares used to compute diluted net income (loss) per share	36,781	36,165	35,947
Comprehensive income (loss):			
Unrealized investment holding gains (losses), net of reclassification adjustments	\$(1,303)	\$(955)	\$(4,145)
Foreign currency translation adjustments, net of reclassification adjustments	(862)	(3,273)	(3,412)
Total other comprehensive income (loss)	(2,165)	(4,228)	(7,557)
Net income (loss)	(36,550)	(81,847)	(71,815)
Comprehensive income (loss)	\$(38,715)	\$(86,075)	\$(79,372)
(A) Components of net revenue:			
License fees	\$27,846	\$28,422	\$28,308
Service revenue	92,622	96,874	127,904
	\$120,468	\$125,296	\$156,212
(B) Components of cost of revenue:			
License fees	\$6,062	\$6,381	\$8,012
Service revenue	58,906	63,916	68,369
	\$64,968	\$70,297	\$76,381

See accompanying notes to consolidated financial statements.

REALNETWORKS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Years Ended December 31,		
	2016	2015	2014
Cash flows from operating activities:			
Net income (loss)	\$(36,550)	\$(81,847)	\$(71,815)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	7,057	10,410	11,959
Stock-based compensation	5,424	4,698	5,204
Equity in net loss of Rhapsody	6,533	14,521	4,452
Lease exit and related charges	2,239	2,501	668
Deferred income taxes, net	130	(1,558)	(237)
Loss (gain) on investments, net	(8,473)	159	(2,371)
Realized translation loss (gain)	272	(264)	(48)
Extinguishment of liability	—	—	(10,580)
Fair value of warrants granted in 2015, net of subsequent mark to market adjustments in 2016 and 2015	280	(1,053)	—
Net change in certain operating assets and liabilities:			
Trade accounts receivable	(129)	(8,236)	8,732
Deferred costs, prepaid expenses and other assets	964	2,606	1,982
Accounts payable	1,571	(465)	(769)
Accrued and other liabilities	(3,646)	(10,454)	(7,421)
Net cash provided by (used in) operating activities	(24,328)	(68,982)	(60,244)
Cash flows from investing activities:			
Purchases of equipment, software, and leasehold improvements	(2,438)	(1,319)	(2,460)
Proceeds from sale of equity and other investments	4,967	459	2,754
Purchases of short-term investments	(75,766)	(72,136)	(81,216)
Proceeds from sales and maturities of short-term investments	84,249	78,775	97,683
Decrease in restricted cash equivalents and investments	190	110	—
Acquisitions	(150)	(161)	(733)
Advance to Rhapsody	(3,500)	(5,000)	—
Repayment from Rhapsody	—	5,000	—
Proceeds from the sale of Slingo and social casino business	4,000	10,000	—
Other	—	—	(467)
Net cash provided by (used in) investing activities	11,552	15,728	15,561
Cash flows from financing activities:			
Proceeds from issuance of common stock (stock options and stock purchase plan)	535	426	812
Tax payments from shares withheld upon vesting of restricted stock	(880)	(85)	(407)
Payment of contingent consideration	—	—	(1,042)
Net cash provided by (used in) financing activities	(345)	341	(637)
Effect of exchange rate changes on cash and cash equivalents	(473)	(3,025)	(2,662)
Net increase (decrease) in cash and cash equivalents	(13,594)	(55,938)	(47,982)
Cash and cash equivalents, beginning of year	47,315	103,253	151,235
Cash and cash equivalents, end of year	\$33,721	\$47,315	\$103,253

Supplemental disclosure of cash flow information:

Cash received from income tax refunds	\$534	\$1,102	\$654
Cash paid for income taxes	\$2,072	\$1,491	\$1,882
Non-cash investing activities:			
Increase (decrease) in accrued purchases of equipment, software, and leasehold improvements	\$26	\$(150)	\$(297)
Acquisition of intangible assets	\$—	\$102	\$—
See accompanying notes to consolidated financial statements.			

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REALNETWORKS, INC. AND SUBSIDIARIES
 CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(In thousands)

	Common Stock Shares	Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Deficit)	Total Shareholders' Equity
Balances, December 31, 2013	35,833	\$ 36	\$ 610,167	\$ (47,695)	\$(293,527)	\$ 268,981
Common stock issued for exercise of stock options, employee stock purchase plan, and vesting of restricted shares, net of tax payments from shares withheld upon vesting of restricted stock	266	—	405	—	—	405
Share of Rhapsody equity transactions	—	—	1,980	—	—	1,980
Stock-based compensation	—	—	5,204	—	—	5,204
Other comprehensive income (loss)	—	—	—	(7,557)	—	(7,557)
Net income (loss)	—	—	—	—	(71,815)	(71,815)
Balances, December 31, 2014	36,099	\$ 36	\$ 617,756	\$ (55,252)	\$(365,342)	\$ 197,198
Common stock issued for exercise of stock options, employee stock purchase plan, and vesting of restricted shares, net of tax payments from shares withheld upon vesting of restricted stock	199	—	341	—	—	341
Share of Rhapsody equity transactions	—	—	4,521	—	—	4,521
Stock-based compensation	—	—	4,698	—	—	4,698
Other comprehensive income (loss)	—	—	—	(4,228)	—	(4,228)
Net income (loss)	—	—	—	—	(81,847)	(81,847)
Balances, December 31, 2015	36,298	\$ 36	\$ 627,316	\$ (59,480)	\$(447,189)	\$ 120,683
Common stock issued for exercise of stock options, employee stock purchase plan, and vesting of restricted shares, net of tax payments from shares withheld upon vesting of restricted stock	1,203	1	(345)	—	—	(344)
Share of Rhapsody equity transactions	—	—	1,533	—	—	1,533
Stock-based compensation	—	—	5,424	—	—	5,424
Other comprehensive income (loss)	—	—	—	(2,165)	—	(2,165)
Net income (loss)	—	—	—	—	(36,550)	(36,550)
Balances, December 31, 2016	37,501	\$ 37	\$ 633,928	\$ (61,645)	\$(483,739)	\$ 88,581

See accompanying notes to consolidated financial statements.

REALNETWORKS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
Years ended December 31, 2016, 2015 and 2014

Note 1. Description of Business and Summary of Significant Accounting Policies

Description of Business. RealNetworks, Inc. and subsidiaries is a leading global provider of network-delivered digital media applications and services that make it easy to manage, play and share digital media. The Company also develops and markets software products and services that enable the creation, distribution and consumption of digital media, including audio and video.

Inherent in our business are various risks and uncertainties, including a limited history of certain of our product and service offerings. RealNetworks' success will depend on the acceptance of our technology, products and services and the ability to generate related revenue.

In this Annual Report on Form 10-K for the year ended December 31, 2016 (10-K), RealNetworks, Inc. and subsidiaries is referred to as "RealNetworks", the "Company", "we", "us", or "our".

Basis of Presentation. The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. Intercompany balances and transactions have been eliminated in consolidation.

The consolidated financial statements reflect all adjustments that, in the opinion of management, are necessary for a fair presentation of the results of operations for the periods presented. Operating results for the year ended December 31, 2016 are not necessarily indicative of the results that may be expected for any subsequent periods.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents, Short-Term Investments, and Available-for-Sale Securities. We consider all short-term investments with a remaining contractual maturity at date of purchase of three months or less to be cash equivalents. We have classified as available-for-sale all marketable debt and equity securities for which there is determinable fair market value and there are no restrictions on our ability to sell. Available-for-sale securities are carried at fair value with unrealized gains and losses reported in accumulated other comprehensive income (loss) (AOCI) in shareholders' equity, net of any applicable income taxes. Investments with remaining contractual maturities of five years or less are classified as short-term because the investments are marketable and highly liquid, and we have the ability to utilize them for current operations. Realized gains and losses and any declines in value judged to be other-than-temporary on available-for-sale securities are included in other income (expense), net. Realized and unrealized gains and losses on available-for-sale securities are determined using the specific identification method.

Trade Accounts Receivable. Trade accounts receivable consist of amounts due from customers and do not bear interest. The allowance for doubtful accounts and sales returns is our estimate of the amount of probable credit losses and returns in our existing accounts receivable. We determine the allowances based on analysis of historical bad debts, customer concentrations, customer credit-worthiness, return history and current economic trends. We review the allowances for doubtful accounts and sales returns quarterly. Past due balances over 90 days and specified other balances are reviewed individually for collectability. All other balances are reviewed on an aggregate basis. Account balances are written off against the allowance after all reasonable means of collection have been exhausted and the potential for recovery is considered remote. We do not have any off-balance sheet credit exposure related to our customers.

Concentration of Credit Risk. Financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents, short-term investments, and accounts receivable. Short-term investments consist of U.S. government and government agency securities, corporate notes and bonds, and municipal securities. We derive a portion of our revenue from a large number of individual consumers spread globally. We also derive revenue from several large customers. If the financial condition or results of operations of any one of the large customers deteriorates substantially, our operating results could be adversely affected. To reduce credit risk, management performs ongoing credit evaluations of the financial condition of significant customers. We do not

generally require collateral and we maintain an allowance for estimated credit losses on customer accounts when considered necessary.

Depreciation and Amortization. Depreciation of equipment and software, as well as amortization of leasehold improvements is computed using the straight-line method over the lesser of the estimated useful lives of the assets or the related lease term. The useful life of equipment and software is generally three to five years.

Depreciation and amortization expense of these assets during the years ended December 31, 2016, 2015, and 2014 was \$6.0 million, \$8.1 million and \$8.5 million, respectively.

Equity Method Investment. We use the equity method in circumstances where we have the ability to exert significant influence, but not control, over an investee or joint venture. We initially record our investment based on a fair value analysis of the investment. We record our percentage interest in the investee's recorded income or loss and changes in the investee's capital under this method, which will increase or decrease the reported value of our investment. See Note 4, Rhapsody Joint Venture for additional information.

We evaluate impairment of an investment accounted for under the equity method if events and circumstances warrant. An impairment charge would be recorded if a decline in the fair value of an equity investment below its carrying amount were determined to be other than temporary. In determining if a decline is other than temporary, we consider factors such as the length of time and extent to which the fair value of the investment has been less than the carrying amount of the investee or joint venture, the near-term and longer-term operating and financial prospects of the investee or joint venture and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery.

Deferred Costs. We defer certain costs on projects for service revenues and system sales. Deferred costs consist primarily of direct and incremental costs to customize and install systems, as defined in individual customer contracts, including costs to acquire hardware and software from third parties and payroll and related costs for employees and other third parties. Deferred costs are capitalized during the implementation period.

We recognize such costs as a component of cost of revenue, the timing of which is dependent upon the revenue recognition policy by contract. At each balance sheet date, we review deferred costs to ensure they are ultimately recoverable. Any anticipated losses on uncompleted contracts are recognized when evidence indicates the estimated total cost of a contract exceeds its estimated total revenue or if actual deferred costs exceed estimated contractual revenue. Assessing the recoverability of deferred costs is based on significant assumptions and estimates, including future revenue and cost of sales. Significant or sustained decreases in revenue or increases in cost of sales in future periods could result in impairments of deferred project costs and prepaid royalty advances. We cannot accurately predict the amount and timing of any such impairments. Should deferred project costs or prepaid royalty advances become impaired, we would record the appropriate charge, which could have a material adverse effect on our financial condition and results of operations.

In 2014 we impaired \$0.7 million in deferred project costs and the charge was included in cost of revenue in the accompanying consolidated statements of operations and comprehensive income (loss). No such charges were incurred in 2016 or 2015.

Definite-Lived Tangible and Intangible Assets. Definite-lived tangible assets include equipment, software and leasehold improvements and are carried at cost less accumulated depreciation and amortization. Definite-lived intangible assets consist primarily of the fair value of customer agreements and contracts, and developed technology acquired in business combinations and are amortized over their estimated useful lives.

We review these assets for impairment whenever events or changes in circumstances indicate the carrying amount of such assets may not be recoverable. If the carrying amount of an asset group is not recoverable, an impairment loss is recognized if the carrying amount of the asset group exceeds its estimated fair value, which is generally determined as the present value of estimated future cash flows to a market participant. Our impairment analysis is based on significant assumptions of future results, including operating and cash flow projections. Significant or sustained declines in future revenue or cash flows, or adverse changes in our business climate, among other factors, could result in the need to record an impairment charge in future periods.

Goodwill. We test goodwill for impairment on an annual basis, in our fourth quarter, or more frequently if circumstances indicate reporting unit carrying values may exceed their fair values. Circumstances that may indicate a reporting unit's carrying value exceeds its fair value include, but are not limited to: poor economic performance relative to historical or projected future operating results; significant negative industry, economic or company specific trends; changes in the manner of our use of the assets or the plans for our business; and loss of key personnel.

When evaluating goodwill for impairment, based upon our annual test or due to changes in circumstances described above, we first perform a qualitative assessment to determine if the fair value of a reporting unit is more likely than not less than the reporting unit's carrying amount including goodwill. If this assessment indicates it is more likely than

not, we then compare the carrying value of the reporting unit to the estimated fair value of the reporting unit. If the carrying value of the reporting unit exceeds the estimated fair value, we then calculate the implied estimated fair value of goodwill for the reporting unit and compare it to the carrying amount of goodwill for the reporting unit. If the carrying amount of goodwill exceeds the implied estimated fair value, an impairment charge to current operations is recorded to reduce the carrying value to implied

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estimated value. Significant judgment is required in determining the reporting units and assessing fair value of the reporting units.

Fair Value. Fair value is the price that would be received from selling an asset or paid in transferring a liability in an orderly transaction between market participants at the measurement date. Our fair value measurements consider the principal or most advantageous market in which we would transact and the market-based risk measurements or assumptions that market participants would use in pricing the asset or liability, such as inherent risk, transfer restrictions and credit risk.

Fair values are determined based on three levels of inputs:

Level 1: Quoted prices in active markets for identical assets or liabilities

Level 2: Directly or indirectly observed inputs for the asset or liability, including quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active

Level 3: Significant unobservable inputs that reflect our own estimates of assumptions that market participants would use

Research and Development. Costs incurred in research and development are expensed as incurred. Software development costs are capitalized when a product's technological feasibility has been established through the date the product is available for general release to customers. Other than internal use software, we have not capitalized any software development costs, as technological feasibility is generally not established until a working model is completed, at which time substantially all development is complete.

Revenue Recognition. We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable, and collection is probable. Physical products are considered delivered to the customer once they have been shipped and title and risk of loss have been transferred. For online sales, the products or services are considered delivered at the time the products or services are made available, digitally, to the end user.

We recognize revenue on a gross or net basis. In most arrangements, we contract directly with end user customers, and are the primary obligor. In such arrangements, we recognize revenue on a gross basis. In some cases, we utilize third-party distributors who are the primary obligor to sell products or services directly to end user customers. In such instances, we recognize revenue on a net basis.

In our direct to consumer operations, we derive revenue through (1) subscriptions sold by our Games segment and subscriptions of SuperPass within our Consumer Media segment, (2) sales of content downloads, software and licenses offered by our Consumer Media, Mobile Services, and Games segments and (3) the sale of advertising and the distribution of third-party products on our websites and in our games.

Consumer subscription products are paid in advance, typically for monthly, quarterly or annual duration. Subscription revenue is recognized ratably over the related subscription time period. Revenue from sales of content downloads, software and licenses is recognized at the time the product is made available, digitally, to the end user. Revenue generated from advertising on our websites and from advertising and the distribution of third-party products included in our products is recognized as revenue at the time of delivery.

We also generate revenue through business-to-business channels by providing services within our Mobile Services segment enabling mobile carriers to deliver audio and video content to their customers and by selling software licenses and products and related support and other services. Revenue generated from services provided to mobile carriers that enable the delivery of audio and video content to their customers is recognized as the services are provided. Setup fees to build these services are recognized ratably upon launch of the service over the remaining expected term of the service.

Non-software revenue arrangements containing multiple elements are divided into separate units of accounting, after being evaluated for specific criteria. If the criteria for separation are met, revenue is allocated to the individual units using the relative fair value method. If the criteria are not met, the elements are treated as one unit of accounting and revenue recognition is delayed until all elements have been delivered. In the case of revenue arrangements containing software, elements are divided into separate units of accounting only when vendor-specific objective evidence has been established. In cases where vendor-specific objective evidence has not been established, undelivered elements are combined into one unit of accounting and are not recognized in revenue until all elements have been delivered.

Advertising Expenses. We expense the cost of advertising and promoting our products as incurred. These costs are included in sales and marketing expense and totaled \$6.1 million in 2016, \$16.5 million in 2015 and \$23.1 million in 2014.

Foreign Currency. The functional currency of the Company's foreign subsidiaries is the currency of the country in which the subsidiary operates. Assets and liabilities of foreign operations are translated into U.S. dollars using rates of exchange in effect at the end of the reporting period. The net gain or loss resulting from translation is shown as translation adjustment and

included in AOCI in shareholders' equity. Income and expense accounts are translated into U.S. dollars using average rates of exchange. Gains and losses from foreign currency transactions are included in the consolidated statements of operations.

Derivative Financial Instruments. We conduct business internationally in several currencies and thus we are exposed to adverse movements in foreign currency exchange rates. A portion of these risks may be managed through the use of financial derivatives, but fluctuations in foreign exchange rates could impact our results of operations and financial position.

Where appropriate, we manage foreign currency risk for certain material short-term intercompany balances through the use of foreign currency forward contracts. These contracts require us to exchange currencies at rates agreed upon at the contract's inception. Because the impact of movements in currency exchange rates on forward contracts offsets the related impact on the short-term intercompany balances, these financial instruments help alleviate the risk that might otherwise result from certain changes in currency exchange rates. We do not designate foreign exchange forward contracts related to short-term intercompany accounts as hedges and, accordingly, we adjust these instruments to fair value through our results of operations. However, we may periodically hedge a portion of our foreign exchange exposures associated with material firmly committed transactions and long-term investments.

All derivatives, whether designated in hedging relationships or not, are recorded on the balance sheet at fair value. If the derivative is designated a hedge, then depending on the nature of the hedge, changes in fair value will either be recorded immediately in results of operations, or be recognized in AOCI until the hedged item is recognized in results of operations.

We had nominal amounts of derivatives outstanding at either December 31, 2016 or 2015.

Accounting for Taxes Collected from Customers. Our revenues are reported net of sales and other transaction taxes that are collected from customers and remitted to taxing authorities.

Income Taxes. We compute income taxes using the asset and liability method, under which deferred income taxes are provided for temporary differences between financial reporting basis and tax basis of our assets and liabilities and operating loss and tax credit carryforwards. We record a valuation allowance when it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of the deferred tax assets depends on the ability to generate sufficient taxable income of the appropriate character in the appropriate taxing jurisdictions. Adjustments to the valuation allowance could be required in the future if we estimate that the amount of deferred tax assets to be realized is more or less than the net amount we have recorded. Any increase or decrease in the valuation allowance could have the effect of increasing or decreasing the income tax provision in the statement of operations. Deferred tax assets and liabilities and operating loss and tax credit carryforwards are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences and operating loss and tax credit carryforwards are expected to be recovered or settled.

We file numerous consolidated and separate income tax returns in the U.S. including federal, state and local, as well as foreign jurisdictions. With few exceptions, we are no longer subject to U.S. federal income tax examinations for tax years before 2013 or state, local, or foreign income tax examinations for years before 1993. We are currently under audit by various states and foreign jurisdictions for certain tax years subsequent to 1993.

We recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. We recognize accrued interest and penalties related to uncertain tax positions as a component of income tax expense.

Stock-Based Compensation. Stock-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which is the vesting period. We use the Black-Scholes option-pricing model or other appropriate valuation models such as Monte Carlo simulation to determine the fair value of stock-based option awards. The fair value of restricted stock awards is based on the closing market price of our common stock on the award date. Generally, we recognize the compensation cost for awards on a straight-line basis for the entire award, over the applicable vesting period. For performance-based awards, expense is recognized when it is probable the performance goal will be achieved, however if the likelihood becomes improbable, that expense is reversed. For market-based stock options, fair value is measured at the grant date using the Monte

Carlo simulation model and we recognize compensation cost for these awards on a straight-line basis over the requisite service period for each separately vesting portion of the awards. For our employee stock purchase plan, compensation expense is measured based on the discount the employee is entitled to upon purchase. The valuation models for stock-based option awards require various highly judgmental assumptions including volatility in our common stock price and expected option life. If any of the assumptions used in the valuation models change significantly,

stock-based compensation expense for new awards may differ materially in the future from the amounts recorded in the consolidated statements of operations. For all awards, we also estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates.

Net Income Per Share. Basic net income (loss) per share (EPS) is computed by dividing net income (loss) by the weighted average number of common shares outstanding during the period. Diluted EPS is computed by dividing net income (loss) by the weighted average number of common and dilutive potential common shares outstanding during the period.

Note 2. Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued new revenue recognition guidance, which was subsequently updated and amended in 2015 and 2016. The guidance requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The new guidance will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. While we are evaluating all of our revenue streams, we currently expect the greatest impact in certain areas where we will be required to estimate usage which drives the underlying revenue. Under current guidance, we do not recognize revenues until we achieve fixed and determinable status, which would be at a later date. However, our analysis is not complete and we may identify other areas of additional impact. The guidance permits two methods of adoption: the full retrospective method where the standard would be applied to each prior reporting period presented and the cumulative effect of applying the standard would be recognized at the earliest period shown, or the modified retrospective method, in which case the cumulative effect of applying the standard would be recognized at the date of initial application. While we are currently evaluating the method of adoption and the quantitative impact of the new revenue standard, as amended, we currently expect to adopt using the modified retrospective method in the first quarter of fiscal year 2018.

In February 2016, the FASB issued new guidance related to the accounting for leases by lessees. A major change in the new guidance is that lessees will be required to present right-of-use assets and lease liabilities on the balance sheet. The new guidance will be effective for us on January 1, 2019, including interim periods within 2019. We will be evaluating the effect that the guidance will have on our consolidated financial statements and related disclosures.

In March 2016, the FASB issued new guidance that is intended to simplify several aspects of the accounting for stock-based compensation, including the treatment of forfeitures, income taxes and statutory tax withholding requirements. The new guidance will be effective for us on January 1, 2017; with early adoption permitted beginning January 1, 2016. We adopted this guidance on January 1, 2017. The adoption of this guidance will not have any impact on our consolidated financial statements and related disclosures.

There have been no other recent accounting pronouncements or changes in accounting pronouncements to be implemented that are of significance or potential significance to RealNetworks.

Note 3. Acquisitions and Disposals

2015 Sale of Slingo and social casino business. On July 24, 2015, we entered into an agreement to sell the Slingo and social casino portion of our games business to Gaming Realms plc. Of the total transaction price of \$18.0 million, \$10.0 million was paid in cash at closing on August 10, 2015, and \$4.0 million was paid in cash in August 2016. The remaining \$4.0 million will be payable either all in cash or a mix of cash and Gaming Realms plc stock, at our election, in August 2017. We recognized the gain related to the 2016 payment in Gain (loss) on investments, net, on the statement of operations in 2016. Based on several factors, including the timing of the receipt of the remaining consideration, we deferred the remaining gain of \$4.0 million and will recognize that gain upon realization. As this sale did not represent a strategic shift in our business and we do not believe it will have a major impact on our future operations and financial results, it did not meet the criteria for discontinued operations under GAAP. As such, we recorded in 2015 the related foreign currency gain of \$0.5 million in Other income and expense and an income tax benefit of \$1.6 million from the reversal of a Slingo deferred tax liability as described below.

With the transaction, Gaming Realms plc assumed the operations of our Slingo and social casino businesses, including substantially all of the related assets and liabilities, as well as the stock of Backstage Technologies Incorporated. The disposed assets and liabilities consisted of intangible assets of \$5.7 million, net property, plant and equipment of \$0.3 million, and other net assets of \$0.4 million, as well as a deferred tax liability of \$1.6 million related to the

indefinite-lived Slingo trade name, which was included as part of the intangible assets disposed of in the sale. Goodwill totaling \$3.6 million was also disposed as part of the transaction based on the relative fair values of the business disposed of and the portion of the games reporting unit retained.

Note 4. Rhapsody Joint Venture

As of December 31, 2016 we owned approximately 42% of the issued and outstanding stock of Rhapsody and account for our investment using the equity method of accounting.

Rhapsody was initially formed in 2007 as a joint venture between RealNetworks and MTV Networks, a division of Viacom International Inc. (MTVN), to own and operate a business-to-consumer digital audio music service known as Rhapsody.

Following certain restructuring transactions effective March 31, 2010, we began accounting for our investment in Rhapsody using the equity method of accounting. As part of the 2010 restructuring transactions, RealNetworks contributed \$18.0 million in cash, the Rhapsody brand and certain other assets, including content licenses, in exchange for shares of convertible preferred stock of Rhapsody, carrying a \$10.0 million preference upon certain liquidation events.

We recorded our share of losses of Rhapsody of \$6.5 million, \$14.5 million, and \$4.5 million for the years ended December 31, 2016, 2015 and 2014, respectively. Because of the \$10.0 million liquidation preference on the preferred stock we hold in Rhapsody, under the equity method of accounting we did not record any share of Rhapsody losses that would reduce our carrying value of Rhapsody, which is impacted by Rhapsody equity transactions, below \$10.0 million, until Rhapsody's book value was reduced below \$10.0 million which occurred in the first quarter of 2015. As of December 31, 2015, the carrying value of our Rhapsody equity investment was zero, as we did not have further commitment to provide future support to Rhapsody. Unless we commit to provide future financial support to Rhapsody, we do not record our share of Rhapsody losses that would reduce our carrying value of Rhapsody below zero, and instead we track those suspended losses separately.

In December 2016, RealNetworks entered into an agreement to loan up to \$5 million to Rhapsody for general operating purposes, as did the other 42% owner of Rhapsody, Columbus Nova. In December, \$3.5 million of the loan was made by each lender. Both loans contain an additional commitment to loan to Rhapsody the remaining \$1.5 million of the \$5 million total at its request, during any point from January 1, 2017 to January 31, 2017. As of December 31, 2016, this additional commitment was reflected on our consolidated balance sheets as Commitment to Rhapsody. Both parties subsequently funded the remaining \$1.5 million commitment on January 24, 2017. The loans are subordinate to all existing loans, and bear an interest rate of 10% per annum, which accretes into the outstanding principal balance and will be due at the December 7, 2017 maturity date. We have recognized previously suspended Rhapsody losses, which we have discussed above, up to the full \$5.0 million funding commitment in the Equity in net loss of Rhapsody investment line item in our consolidated statements of operations.

In March 2015, RealNetworks extended a \$5.0 million loan to Rhapsody, as did the other 42% owner of Rhapsody. The loans had original maturity dates of June 2018, or earlier, if Rhapsody's certain loan to an external strategic partner was repaid in full. The loans to Rhapsody bore interest at the greater of prime plus 5.25% or 9% per annum. During 2015, Rhapsody's external strategic partner repaid its loan to Rhapsody and Rhapsody then repaid its loan to us and the other 42% owner in full. Under the loan, Rhapsody paid us approximately \$0.2 million of interest in 2015. Summarized financial information for Rhapsody, which represents 100% of their financial information, is as follows (in thousands):

	Year ended December 31, 2016	Year ended December 31, 2015	Year ended December 31, 2014
Net revenue	\$208,085	\$201,987	\$173,484
Gross profit	38,407	32,761	32,145
Net loss	(14,913)	(35,479)	(21,336)

As of	As of
December	December
31, 2016	31, 2015

Current assets	\$ 55,831	\$ 53,274
Non-current assets	18,273	20,520
Current liabilities	104,906	92,794
Non-current liabilities	20,238	20,295

Note 5. Fair Value Measurements

Items Measured at Fair Value on a Recurring Basis

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The following tables present information about our financial assets that have been measured at fair value on a recurring basis as of December 31, 2016 and 2015, and indicates the fair value hierarchy of the valuation inputs utilized to determine fair value (in thousands).

	Fair Value Measurements as of				Amortized Cost as of December 31, 2016
	December 31, 2016				
	Level 1	Level 2	Level 3	Total	
Cash and cash equivalents:					
Cash	\$32,585	\$—	\$—	\$32,585	\$ 32,585
Money market funds	136	—	—	136	136
Corporate notes and bonds	—	1,000	—	1,000	1,000
Total cash and cash equivalents	32,721	1,000	—	33,721	33,721
Short-term investments:					
Corporate notes and bonds	—	43,331	—	43,331	43,343
Total short-term investments	—	43,331	—	43,331	43,343
Restricted cash equivalents and investments	—	2,700	—	2,700	2,700
Warrant issued by Rhapsody (included in Other assets)	—	—	773	773	—
Total	\$32,721	\$47,031	\$ 773	\$80,525	\$ 79,764

	Fair Value Measurements as of				Amortized Cost as of December 31, 2015
	December 31, 2015				
	Level 1	Level 2	Level 3	Total	
Cash and cash equivalents:					
Cash	\$23,152	\$—	\$—	\$23,152	\$23,152
Money market funds	5,061	—	—	5,061	5,061
Corporate notes and bonds	—	19,102	—	19,102	19,102
Total cash and cash equivalents	28,213	19,102	—	47,315	47,315
Short-term investments:					
Corporate notes and bonds	—	51,814	—	51,814	51,862
Total short-term investments	—	51,814	—	51,814	51,862
Restricted cash equivalents and investments	—	2,890	—	2,890	2,890
Equity investments in publicly traded securities	1,721	—	—	1,721	362
Warrant issued by Rhapsody (included in Other assets)	—	—	1,053	1,053	\$—
Total	\$29,934	\$73,806	\$1,053	\$104,793	\$102,429

Restricted cash equivalents and investments as of December 31, 2016 and 2015 relate to cash pledged as collateral against letters of credit in connection with lease agreements.

Realized gains or losses on sales of short-term investment securities for 2016, 2015, and 2014 were not significant. Gross unrealized gains and gross unrealized losses on short-term investment securities as of December 31, 2016 and 2015 were not significant.

Investments with remaining contractual maturities of five years or less are classified as short-term because the investments are marketable and highly liquid, and we have the ability to utilize them for current operations.

Contractual maturities of short-term investments as of December 31, 2016 are as follows (in thousands):

	Estimated Fair Value
Within one year	\$ 41,135
Between one year and five years	2,196

Total short-term investments \$ 43,331

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Our equity investment in a publicly traded company as of December 31, 2015 consisted of J-Stream Inc., a Japanese media services company. This equity investment is accounted for as available for sale. In 2016, we sold the remaining portion of the J-Stream shares we held, resulting in cash proceeds of \$3.3 million and a pre-tax gain of \$2.5 million, net, reported in Other income (expense), net, in the consolidated statement of operations. In 2015, we sold a portion of the J-Stream shares we held, resulting in cash proceeds of \$0.5 million and a pre-tax gain of \$0.4 million, reported in Other income (expense), net. In 2014, we sold a portion of the J-Stream shares we held, resulting in cash proceeds of \$2.8 million and a pre-tax gain of \$2.4 million.

In February 2015, Rhapsody issued warrants to purchase Rhapsody common shares to each of RealNetworks and Rhapsody's one other stockholder. The warrants were issued as compensation for past services provided by RealNetworks and the other stockholder, and both warrants covered the same number of underlying shares. The exercise price of the warrants was equal to the fair value of the underlying shares on the issuance date, and we used the Black-Scholes option-pricing model to calculate the fair value of the warrant, using an expected term of 5 years and expected volatility of 55%. On the date of issuance, we recognized and recorded the \$1.2 million fair value of the warrant issued to RealNetworks within Other assets in the consolidated balance sheets, and as an expense reduction within General and administrative expense in the consolidated statements of operations. The warrants are free-standing derivatives and as such their fair value is determined each quarter using updated inputs in the Black-Scholes option-pricing model. During the twelve months ended December 31, 2016 the decrease in the fair value of the warrants was approximately \$0.3 million.

Items Measured at Fair Value on a Non-recurring Basis

Certain of our assets and liabilities are measured at estimated fair value on a non-recurring basis, using Level 3 inputs. These instruments are subject to fair value adjustments only in certain circumstances (for example, when there is evidence of impairment). We did not record any impairments on those assets required to be measured at fair value on a non-recurring basis in 2016, 2015 or 2014.

See Note 11. Lease Exit and Related Charges, for a discussion of the losses related to reductions in the use of RealNetworks' office space, which were recorded at the estimated fair value of remaining lease obligations, less expected sub-lease income.

Note 6. Allowance for Doubtful Accounts Receivable and Sales Returns

Activity in the allowance for doubtful accounts receivable (in thousands):

	Years ended December 31,		
	2016	2015	2014
Balance, beginning of year	\$765	\$1,288	\$966
Addition (reduction) to allowance	36	(355)	433
Amounts written off	(152)	(77)	—
Effects of foreign currency translation	(16)	(91)	(111)
Balance, end of year	\$633	\$765	\$1,288

Activity in the allowance for sales returns (in thousands):

	Years ended December 31,		
	2016	2015	2014
Balance, beginning of year	\$158	\$354	\$569
Addition (reduction) to allowance	15	(186)	(209)
Amounts written off	(3)	(9)	(6)
Effects of foreign currency translation	(1)	(1)	—
Balance, end of year	\$169	\$158	\$354
Total, Allowance for Doubtful Accounts Receivable and Sales Returns	\$802	\$923	\$1,642

One customer accounted for 64% of trade accounts receivable at December 31, 2016. One customer accounted for 52% and one other customer accounted for 12% of trade accounts receivable as of December 31, 2015.

One customer accounted for 32% or \$38.9 million, of consolidated revenue during the year ended December 31, 2016, in our Mobile Services segment.

One customer accounted for 26%, or \$32.9 million, of consolidated revenue during the year ended December 31, 2015, which is reflected in our Mobile Services segment.

One customer accounted for 20%, or \$31.9 million, of consolidated revenue during the year ended December 31, 2014, which is reflected in our Mobile Services segment.

Note 7. Other Intangible Assets

Other intangible assets (in thousands):

	As of December 31,			2015		
	2016		Net	Gross	Accumulated	Net
	Gross	Accumulated		Amount	Amortization	
	Amount	Amortization		Amount	Amortization	Net
Amortizing intangible assets:						
Customer relationships	\$29,308	\$ 28,781	\$527	\$30,182	\$ 29,236	\$946
Developed technology	23,574	23,263	311	24,047	23,244	803
Patents, trademarks and tradenames	3,530	3,430	100	3,717	3,398	319
Service contracts	5,205	5,205	—	5,269	5,201	68
Total	\$61,617	\$ 60,679	\$938	\$63,215	\$ 61,079	\$2,136

An asset purchase relating to our Games business was completed in the second quarter of 2016, and resulted in an intangible asset of \$0.2 million.

In the third quarter of 2016 we recognized a gain of \$2.0 million, net of transaction costs, to Gain (loss) on investments, net, as the result of a sale of a domain name with no book value to a third party.

As discussed in Note 3. Acquisitions and Disposals, \$5.7 million worth of intangible assets, net, related to the third quarter 2015 sale of our Slingo and social casino portion of our games business, were disposed.

Amortization expense related to other intangible assets during the years ended December 31, 2016, 2015, and 2014 was \$1.0 million, \$2.3 million, and \$3.4 million, respectively.

Estimated future amortization of other intangible assets (in thousands):

2017 \$642

2018 296

Total \$938

No impairments of other intangible assets were recognized in 2016, 2015 or 2014.

Note 8. Goodwill

Changes in goodwill (in thousands):

	December 31,	
	2016	2015
Balance, beginning of year		
Goodwill	\$323,733	\$328,008
Accumulated impairment losses	(310,653)	(310,653)
	13,080	17,355
Increases (decreases) due to current year acquisitions (disposals)	—	(3,620)

Effects of foreign currency translation	(223)	(655)
	(223)	(4,275)

Balance, end of year

Goodwill	323,510	323,733
Accumulated impairment losses	(310,653)	(310,653)
	\$12,857	\$13,080

Goodwill by segment (in thousands):

	December 31,	
	2016	2015
Consumer Media	\$580	\$580
Mobile Services	1,979	2,202
Games	10,298	10,298
Total goodwill	\$12,857	\$13,080

As discussed in Note 3. Acquisitions and Disposals, \$3.6 million of goodwill was disposed of in the third quarter 2015 sale of our Slingo and social casino portion of our games business.

No impairments of goodwill were recorded in 2016, 2015, or 2014.

Note 9. Accrued and Other Current Liabilities

Accrued and other current liabilities (in thousands):

	December 31, December	
	2016	31, 2015
Royalties and other fulfillment costs	\$ 2,629	\$ 3,094
Employee compensation, commissions and benefits	5,136	5,958
Sales, VAT and other taxes payable	3,258	2,976
Other	4,402	5,292
Total accrued and other current liabilities	\$ 15,425	\$ 17,320

Note 10. Restructuring Charges

Restructuring and other charges in 2016, 2015 and 2014 consist of costs associated with the ongoing reorganization of our business operations and our ongoing expense re-alignment efforts. The expense amounts in all three years primarily relate to severance costs due to workforce reductions.

Restructuring charges are as follows (in thousands):

	Employee Separation Costs
Costs incurred and charged to expense for the year ended December 31, 2016	\$ 1,489
Costs incurred and charged to expense for the year ended December 31, 2015	\$ 5,279
Costs incurred and charged to expense for the year ended December 31, 2014	\$ 4,992
Changes to the accrued restructuring liability (which is included in Accrued and other current liabilities) for 2016, 2015 and 2014, (in thousands):	

	Employee Separation Costs
Accrued liability as of December 31, 2013	\$ 756

Costs incurred and charged to expense for the year ended December 31, 2014	4,992
Cash payments	(5,299)
Accrued liability as of December 31, 2014	449
Costs incurred and charged to expense for the year ended December 31, 2015	5,279
Cash payments	(4,324)
Accrued liability as of December 31, 2015	1,404
Costs incurred and charged to expense for the period to date in 2016	1,489
Cash payments	(2,684)
Accrued liability as of December 31, 2016	\$ 209

Note 11. Lease Exit and Related Charges

As a result of the reduction in use of RealNetworks' office space, primarily in our corporate headquarters in Seattle, Washington, and certain other locations, losses have been recognized representing rent and contractual operating expenses over the remaining life of the leases, including contractual, or estimates of, sublease income expected to be received, and related write-downs of leasehold improvements to their estimated fair value.

In 2015, we recorded \$2.5 million of losses primarily relating to an approximate 43% reduction of office space at our leased corporate headquarters in Seattle, Washington. In 2016, we recorded additional losses of \$2.2 million primarily relating to reduction of our office space at our corporate headquarters, resulting in total reduction of 69% as of December 31, 2016.

We continue to regularly evaluate the market for office space. If the market for such space changes further in future periods, we may have to revise our estimates which may result in future adjustments to expense for excess office facilities.

Changes to the accrued loss on excess office facilities (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Accrued loss, beginning of year	\$2,595	\$234	\$254
Additions and adjustments to the lease loss accrual, including sublease income estimate revision, and related asset write-downs	2,428	2,981	668
Less amounts paid, net of sublease income	(1,837)	(620)	(688)
Accrued loss, end of year	3,186	2,595	234
Less current portion (included in Accrued and other current liabilities)	(1,024)	(822)	(234)
Accrued loss, non-current portion (included in Other long term liabilities)	\$2,162	\$1,773	\$—

Note 12. Shareholders' Equity

Accumulated Other Comprehensive Income (Loss)

Changes in components of accumulated other comprehensive income (loss) (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Investments			
Accumulated other comprehensive income (loss), beginning of period	\$1,297	\$2,252	\$6,397

Unrealized gains (losses), net of tax effects of \$10, \$0, and \$0	1,647	(562	) (1,774)
Reclassification adjustments for losses (gains) included in other income (expense), net of tax effects of \$0, \$0, and \$4	(2,950	) (393	) (2,371)
Net current period other comprehensive income	(1,303	) (955	) (4,145)
Accumulated other comprehensive income (loss) balance, end of period	\$(6	) \$1,297	\$2,252	
Foreign currency translation				
Accumulated other comprehensive income (loss), beginning of period	\$(60,777)	\$(57,504)	\$(54,092)	
Translation adjustments	(1,134	) (3,009	) (3,364)
Reclassification adjustments for losses (gains) included in other income (expense)	272	(264	) (48)
Net current period other comprehensive income	(862	) (3,273	) (3,412)
Accumulated other comprehensive loss balance, end of period	\$(61,639)	\$(60,777)	\$(57,504)	
Total accumulated other comprehensive income (loss), end of period	\$(61,645)	\$(59,480)	\$(55,252)	

Preferred Stock. Each share of Series A preferred stock entitles the holder to one thousand votes and dividends equal to one thousand times the aggregate per share amount of dividends declared on the common stock. There are no shares of Series A preferred stock outstanding.

Undesignated preferred stock will have rights and preferences that are determinable by the Board of Directors if and when determination of a new series of preferred stock has been established.

Note 13. Employee Stock and Benefit Plans

Equity Compensation Plans. Under our equity incentive plans we may grant various types of equity awards to employees and Directors. We have granted time-vest and performance-vest stock options and time-vest and performance-vest restricted stock. Generally, options vest based on continuous employment, over a four-year period. The options generally expire seven years from the date of grant and are exercisable at the market value of the common stock at the grant date. Time-vest restricted stock awards generally vest based on continuous employment over a two or four-year period. Performance-based awards vest if the specified performance targets are met and the grantee remains employed over the required period. The performance targets for these awards are generally based on the achievement of company-specific financial results. For these performance-based awards, expense is recognized when it is probable the performance goal will be achieved. We have also issued market-based performance stock options to certain employees. These awards vest if the market condition is met and the grantee remains employed over the requisite service period.

We issue new shares of common stock upon exercise of stock options and the vesting of restricted stock. As of December 31, 2016 there were 6.5 million shares of common stock authorized for future equity awards. Each restricted stock unit granted reduces and each restricted stock unit forfeited or canceled increases the shares available for future grant by a factor of 1.6 shares. Each stock option granted reduces and each stock option forfeited or canceled increases the shares available for future grant by a factor of one share. We also have an employee stock purchase plan, under which 0.3 million shares of common stock are authorized for future issuance as of December 31, 2016.

Stock-based compensation expense recognized in our consolidated statements of operations includes amounts related to stock options, restricted stock, and employee stock purchase plans and was as follows (in thousands):

	Years Ended		
	December 31,		
	2016	2015	2014
Total stock-based compensation expense	\$5,424	\$4,698	\$5,204

The total stock-based compensation amounts disclosed above are recorded in the respective line items within operating expenses in the consolidated statement of operations. Included in the expense for 2016 was stock compensation expense

recorded for 2015 incentive bonuses paid in fully vested restricted stock units which were authorized and granted in 2016. No stock-based compensation was capitalized as part of the cost of an asset as of December 31, 2016, 2015, or 2014. As of December 31, 2016, we had \$6.7 million of total unrecognized compensation cost, net of estimated forfeitures, related to stock awards. The unrecognized compensation cost is expected to be recognized over a weighted-average period of approximately two years.

As discussed in Note 1. Description of Business and Summary of Significant Accounting Policies, the valuation models for stock option awards require various highly judgmental assumptions. The assumption for the expected term of the options represents the estimated period of time until exercise and is based on historical experience of similar awards, including the contractual terms, vesting schedules, and expectations of future employee behavior. Expected stock price volatility is based on historical volatility of our common stock for the related expected term. The risk-free interest rate is based on the implied yield available on U.S. Treasury zero-coupon issues with a term equivalent to the expected term of the stock options. The dividend yield is estimated at zero because we do not currently anticipate paying dividends in the foreseeable future.

The fair value of options granted, excluding the options related to the 2016 Exchange described below, used the following weighted average assumptions:

	Years ended December 31,					
	2016		2015		2014	
Expected dividend yield	—	%	—	%	—	%
Risk-free interest rate	1.59	%	1.47	%	1.40	%
Expected term (years)	5.1		4.8		4.5	
Volatility	35	%	38	%	41	%

Restricted stock unit and award activity was as follows (shares are in thousands):

	Shares	Weighted Average Grant Date Fair Value Per Share	Total Grant Date Fair Value of Vested Awards (000's)
Nonvested shares, December 31, 2013	490	\$ 7.80	
Granted	159	7.60	
Vested	(193)	8.35	\$ 1,608
Forfeited/Canceled	(56)	7.73	
Nonvested shares, December 31, 2014	400	\$ 7.47	
Granted	296	5.44	
Vested	(109)	7.01	\$ 763
Forfeited/Canceled	(263)	7.27	
Nonvested shares, December 31, 2015	324	\$ 5.94	
Granted	832	3.75	
Vested	(802)	3.83	\$ 3,069
Forfeited/Canceled	(22)	5.61	
Nonvested shares, December 31, 2016	332	\$ 5.59	

At December 31, 2016 the aggregate intrinsic value of restricted stock awards was \$1.6 million and the weighted average remaining contractual term was approximately 1 year.

Stock option activity (shares are in thousands):

	Options Outstanding Number of Shares	Weighted Average Exercise Price	Weighted Average Grant Date Fair Value
Outstanding, December 31, 2013	6,625	\$ 10.21	
Options granted at common stock price	2,036	7.44	\$ 2.51
Options exercised	(44)	7.26	

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Options cancelled	(1,893)	14.47	
Outstanding, December 31, 2014	6,724	\$8.19	
Options granted at common stock price	907	5.31	\$1.70
Options exercised	(14)	1.92	
Options cancelled	(2,100)	8.59	
Outstanding, December 31, 2015	5,517	\$7.58	
Options granted at common stock price	1,230	4.50	\$1.51
Options cancelled as part of stock option exchange	(1,961)	8.11	
Options granted as part of stock option exchange	1,961	4.73	\$0.74
Options exercised	(90)	3.69	
Options cancelled	(796)	8.81	
Outstanding, December 31, 2016	5,861	\$5.73	
Exercisable, December 31, 2016	1,940	\$7.04	
Vested and expected to vest, December 31, 2016	5,550	\$5.79	

In 2016 and 2015 we granted 400,000 and 200,000 market-based stock options, respectively, which are included in the stock option tables above.

As of December 31, 2016, the weighted average remaining contractual life of the options was as follows: outstanding options 5.8 years; exercisable options 4.3 years; and vested and expected to vest options 5.7 years.

As of December 31, 2016, the aggregate intrinsic value of the options was as follows: outstanding options \$1.0 million; exercisable options \$0.1 million; and vested and expected to vest options \$0.9 million.

The aggregate intrinsic value of stock options exercised in 2016 was \$0.1 million and was insignificant in both 2015 and 2014.

Employee Stock Purchase Plan. Our Employee Stock Purchase Plan (ESPP) allows an eligible employee to purchase shares of our common stock at a price equal to 85 percent of the fair market value of the common stock at the end of the semi-annual offering periods, subject to certain limitations. Under the ESPP, 53,600, 94,400 and 78,500 shares were purchased during the years ended December 31, 2016, 2015 and 2014, respectively.

Retirement Savings Plan. We have a salary deferral plan (401(k) Plan) that covers substantially all employees. Eligible employees may contribute a portion of their eligible compensation to the plan up to limits stated in the plan documents, not to exceed the dollar amounts set by applicable laws. During the years ended December 31, 2016, 2015, and 2014, we matched 50% of the first three percent of participating employees' contributions, and contributed \$0.3 million, \$0.6 million, and \$0.7 million, respectively, in matching contributions. We can terminate the matching contributions at our discretion. We have no other post-employment or post-retirement benefit plans.

Stock Option Exchange. In September 2016, our shareholders approved amendments to our stock plans to allow for an option exchange program. The program, which launched on November 3, 2016, offered eligible employees and certain other service providers an opportunity to exchange certain outstanding options, with a per share exercise price in excess of \$4.33 (the "Eligible Options"), for new awards. The Company granted these new options on December 6, 2016, with an exercise price of \$4.73, the fair market price of the Company's common stock as quoted on the Nasdaq Global Select Market at the close of business on that day. Members of the Company's Board of Directors, including our CEO, were not eligible for this program. In connection with the program, options to purchase 2.0 million shares of the Company's common stock were exchanged, representing 58% of total shares of common stock underlying the Eligible Options. As a result of the exchange, an additional \$1.5 million, gross of estimated forfeitures, will be recognized over approximately 2 years, or the remaining average vesting period.

Note 14. Income Taxes

Components of income (loss) before income taxes (in thousands):

	Years ended December 31,		
	2016	2015	2014
United States operations	\$(34,100)	\$(76,450)	\$(67,186)

Foreign operations	(1,328)	(6,231)	(3,349)
Income (loss) before income taxes	\$(35,428)	\$(82,681)	\$(70,535)

Components of income tax expense (benefit) (in thousands):

	Years ended December 31,		
	2016	2015	2014
Current:			
United States federal	\$712	\$176	\$547
State and local	59	(44)	69
Foreign	221	592	901
Total current	992	724	1,517
Deferred:			
United States federal	3	(1,636)	21
State and local	1	1	(40)
Foreign	126	77	(218)
Total deferred	130	(1,558)	(237)
Total income tax expense (benefit)	\$1,122	\$(834)	\$1,280

Income tax expense differs from “expected” income tax expense (computed by applying the U.S. federal income tax rate of 35%) due to the following (in thousands):

	Years ended December 31,		
	2016	2015	2014
United States federal tax expense (benefit) at statutory rate	\$(12,400)	\$(28,938)	\$(24,687)
State taxes, net of United States federal tax expense (benefit)	(533)	(1,240)	(1,083)
Change in valuation allowance	13,148	27,821	27,759
Non-deductible stock compensation	144	218	270
Impact of non-U.S. jurisdictional tax rate difference	132	648	529
Research and development tax credit	(338)	(243)	(325)
Increase (reversal) of unrecognized tax benefits	135	(1,269)	(901)
Non-U.S. withholding tax	452	141	393
Other	382	2,028	(675)
Total income tax expense (benefit)	\$1,122	\$(834)	\$1,280

Net deferred tax assets are comprised of the following (in thousands):

	December 31,	
	2016	2015
Deferred tax assets:		
United States federal net operating loss carryforwards	\$93,985	\$84,426
Deferred expenses	1,136	1,591
Research and development tax credit carryforwards	24,702	24,442
Alternative minimum tax credit carryforward	3,561	3,626
Net unrealized loss on investments	97	97
Accrued loss on excess office facilities	1,178	959
Stock-based compensation	4,112	11,441
State net operating loss carryforwards	11,354	10,079
Foreign net operating loss carryforwards	29,863	30,657
Deferred revenue	156	82
Equipment, software, and leasehold improvements	4,636	4,263

Intangibles

7 12

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Net unrealized gains and basis differences on investments	1,874	—
Other	1,624	5,150
Gross deferred tax assets	178,285	176,825
Less valuation allowance	176,274	173,872
Gross deferred tax assets, net of valuation allowance	\$2,011	\$2,953
Deferred tax liabilities:		
Other intangible assets	\$(50)	\$(404)
Net unrealized gains and basis differences on investments	—	(78)
Other	(794)	(218)
Prepaid expenses	(438)	(1,384)
Gross deferred tax liabilities	(1,282)	(2,084)
Net deferred tax assets (liabilities)	\$729	\$869

Income tax receivables were insignificant and \$0.1 million at December 31, 2016 and 2015, respectively.

In 2016, we continued to record a valuation allowance on the deferred tax assets that we believe are not more likely than not to be realized. The net change in valuation allowance was a \$2.4 million increase and a \$24.4 million increase during the years ended December 31, 2016 and 2015, respectively.

We maintain a valuation allowance of \$176.3 million for our deferred tax assets due to uncertainty regarding their realization as of December 31, 2016. The net increase in the valuation allowance since December 31, 2015 of \$2.4 million was the result of an increase in current year deferred tax assets for which the Company maintains a valuation allowance.

RealNetworks' U.S. federal net operating loss carryforwards totaled \$268.5 million at and \$241.2 million at December 31, 2016 and 2015, respectively. The increase is mainly due to the current year U.S. taxable loss. The remaining net operating loss carryforwards as of December 31, 2016 are from prior U.S. taxable losses and from acquired subsidiaries that are limited under Internal Revenue Code Section 382. These net operating loss carryforwards expire between 2024 and 2036.

RealNetworks' alternative minimum tax credit carryforward remained at \$3.6 million from December 31, 2015 to December 31, 2016. The alternative minimum tax credit can be carried forward indefinitely.

RealNetworks' U.S. federal research and development tax credit carryforward totaled \$24.7 million and \$24.4 million at December 31, 2016 and 2015, respectively. The research and development credit carryforwards expire between 2020 and 2036.

As of December 31, 2016 and 2015, we had \$0.5 million and \$0.3 million of unrecognized tax benefits, respectively. The increase in unrecognized tax benefits is due to federal research and development tax credit carryforward risks. As of December 31, 2016, there are no unrecognized tax benefits remaining that would affect our effective tax rate if recognized, as the offset would increase the valuation allowance. We do not anticipate that the total amount of unrecognized tax benefits will significantly change within the next twelve months.

We recognize interest and penalties related to unrecognized tax benefits within the provision for income taxes. As of December 31, 2016, and 2015 we have no accrued interest or penalties related to uncertain tax positions.

Reconciliation of the beginning and ending balances of the total amounts of unrecognized tax benefits (in thousands):

	Years ended December		
	31,	2015	2014
	2016	2015	2014
Balance, beginning of year	\$ 320	\$3,541	\$4,505
Increases related to prior year tax positions	38	—	—
Decreases related to prior year tax positions	—	(33)	(196)
Settlements with taxing authorities	—	(3,285)	—
Increases related to current year tax positions	135	97	130
Expiration of the statute of limitations	—	—	(898)

Balance, end of year	\$493	\$320	\$3,541
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Note 15. Earnings (Loss) Per Share

Basic and diluted net income (loss) per share (EPS) (in thousands, except per share data):

	Years ended December 31,		
	2016	2015	2014
Net income (loss)	\$(36,550)	\$(81,847)	\$(71,815)
Weighted average common shares outstanding used to compute basic EPS	36,781	36,165	35,947
Dilutive effect of stock based awards	—	—	—
Weighted average common shares outstanding used to compute diluted EPS	36,781	36,165	35,947
Basic EPS	\$(0.99)	\$(2.26)	\$(2.00)
Diluted EPS	\$(0.99)	\$(2.26)	\$(2.00)

Approximately 4.8 million, 5.7 million, and 6.3 million shares of potentially issuable shares from stock awards were excluded from the calculation of diluted EPS for the years ended December 31, 2016, 2015, and 2014, respectively, because of their antidilutive effect.

Note 16. Commitments and Contingencies

Commitments. We have commitments for future payments related to office facilities leases. We lease office facilities under various operating leases expiring through 2024. Future minimum payments as of December 31, 2016 are as follows (in thousands):

	Office Leases
2017	\$5,302
2018	4,499
2019	4,765
2020	4,477
2021	4,325
Thereafter	10,528
Total minimum payments (a)	\$33,896

(a) Minimum payments have not been reduced by minimum sublease rentals of \$12.1 million due in the future under noncancelable subleases.

Of the total office lease future minimum payments, \$3.2 million is recorded in accrued lease exit and related charges at December 31, 2016.

Rent expense during the years ended December 31, 2016, 2015, and 2014, was \$4.2 million, \$5.8 million, and \$6.8 million, respectively.

We could in the future become subject to legal proceedings, governmental investigations and claims in the ordinary course of business, including employment claims, contract-related claims, and claims of alleged infringement of third-party patents, trademarks and other intellectual property rights. Such claims, even if not meritorious, could force us to expend significant financial and managerial resources. In addition, given the broad distribution of some of our consumer products, any individual claim related to those products could give rise to liabilities that may be material to us. In the event of a determination adverse to us, we may incur substantial monetary liability, and/or be required to change our business practices. Either of these could have a material adverse effect on our consolidated financial statements.

Note 17. Guarantees

In the ordinary course of business, RealNetworks is subject to potential obligations for standard warranty and indemnification provisions that are contained within many of our customer license and service agreements. Our warranty provisions are consistent with those prevalent in our industry, and we do not have a history of incurring losses on warranties;

therefore, we do not maintain accruals for warranty-related obligations. With regard to indemnification provisions, nearly all of our carrier contracts obligate us to indemnify our carrier customers for certain liabilities that may be incurred by them. We have received in the past, and may receive in the future, claims for indemnification from some of our carrier customers.

In relation to certain patents and other technology assets we sold to Intel in the second quarter of 2012, we have specific obligations to indemnify Intel for breaches of the representations and warranties that we made and covenants that we agreed to in the asset purchase agreement for certain potential future intellectual property infringement claims brought by third parties against Intel. The amount of any potential liabilities related to our indemnification obligations to Intel will not be determined until a claim has been made, but we are obligated to indemnify Intel up to the amount of the gross purchase price that we received in the sale.

Note 18. Segment Information

In the first quarter of 2016, we reorganized the management of our business and as a result, we now report three segments: (1) Consumer Media, which includes our PC-based RealPlayer products, including RealPlayer Plus and related products and intellectual property licensing; (2) Mobile Services, which includes our SaaS services and our RealTimes® product that is primarily sold through mobile carriers; and (3) Games, which includes all our games-related businesses, including sales of mobile games, sales of games licenses, online games subscription services, advertising on games sites and social network sites, and microtransactions from online and social games.. We allocate to our reportable segments certain corporate expenses which are directly attributable to supporting the businesses, including but not limited to a portion of finance, legal, human resources and headquarters facilities. Remaining expenses, which are not directly attributable to supporting the business, are reported as corporate items. Also reported in our corporate segment are restructuring, lease exit and related charges, as well as stock compensation charges, and the 2014 extinguishment of the liability associated with our historical musical business. Concurrent with the first quarter of 2016 segment change described above, we also changed our corporate expense allocation methodology to increase accountability, resulting in an increase in costs allocated to the Consumer Media and Mobile Services business.

RealNetworks reports the three reportable segments based on factors such as how we manage our operations and how our Chief Operating Decision Maker (CODM) reviews results. The CODM reviews financial information presented on both a consolidated basis and on a business segment basis. The accounting policies used to derive segment results are the same as those described in Note 1. Description of Business and Summary of Significant Accounting Policies. The historical financial information presented has been recast to reflect the new segments and the new corporate expense presentation. Segment results for the years ended December 31, 2016, 2015 and 2014 were as follows (in thousands):

Consumer Media

	2016	2015	2014
Revenue	\$25,051	\$28,613	\$39,121
Cost of revenue	7,074	13,257	13,466
Gross profit	17,977	15,356	25,655
Operating expenses	18,399	26,526	41,950
Operating income (loss)	\$(422)	\$(11,170)	\$(16,295)

Mobile Services

	2016	2015	2014
Revenue	\$70,278	\$65,935	\$79,981
Cost of revenue	50,026	47,834	52,193
Gross profit	20,252	18,101	27,788
Operating expenses	34,439	44,311	53,527
Operating income (loss)	\$(14,187)	\$(26,210)	\$(25,739)

Games

	2016	2015	2014
Revenue	\$25,139	\$30,748	\$37,110
Cost of revenue	7,919	9,291	11,074
Gross profit	17,220	21,457	26,036
Operating expenses	19,644	29,086	37,170
Operating income (loss)	\$(2,424)	\$(7,629)	\$(11,134)

Corporate

	2016	2015	2014
Cost of revenue	\$(51)	\$(85)	\$(352)
Extinguishment of liability	—	—	(10,580)
Operating expenses	20,192	24,263	26,917
Operating income (loss)	\$(20,141)	\$(24,178)	\$(15,985)

Our customers consist primarily of consumers and corporations located in the U.S., Europe, Republic of Korea and various foreign countries (Rest of the World). Revenue by geographic region (in thousands):

	Years ended December 31,		
	2016	2015	2014
United States	\$41,505	\$46,893	\$61,660
Europe	13,700	15,166	26,575
Republic of Korea	43,236	37,832	39,852
Rest of the World	22,027	25,405	28,125
Total	\$120,468	\$125,296	\$156,212

Long-lived assets (consists of equipment, software, leasehold improvements, other intangible assets, and goodwill) by geographic region (in thousands):

	December 31,		
	2016	2015	2013
United States	\$13,052	\$16,821	\$33,421
Europe	3,920	4,898	6,696
Republic of Korea	168	282	547
Rest of the World	1,909	2,015	3,048
Total long-lived assets	\$19,049	\$24,016	\$43,712

Note 19. Related Party Transactions

See Note 4. Rhapsody Joint Venture and Note 5. Fair Value Measurements for details on transactions involving Rhapsody.

Note 20. Quarterly Information (Unaudited)

The following table summarizes the unaudited statement of operations for each quarter of 2016 and 2015 (in thousands, except per share data):

	Total	Dec. 31	Sept. 30 (2)	June 30	Mar. 31
2016					
Net revenue	\$120,468	\$31,453	\$31,051	\$29,734	\$28,230
Gross profit	55,500	14,095	14,311	14,036	13,058
Operating (loss) income	(37,174)	(6,369)	(8,389)	(7,637)	(14,779)
Net income (loss)	(36,550)	(9,976)	(3,056)	(8,347)	(15,171)
Basic net income (loss) per share (1)	(0.99)	(0.27)	(0.08)	(0.23)	(0.42)
Diluted net income (loss) per share (1)	(0.99)	(0.27)	(0.08)	(0.23)	(0.42)
2015					
Net revenue	\$125,296	\$29,922	\$30,823	\$33,954	\$30,597
Gross profit	54,999	14,094	12,733	14,122	14,050
Operating (loss) income	(69,187)	(7,506)	(21,962)	(20,707)	(19,012)
Net income (loss)	(81,847)	(8,413)	(21,184)	(27,781)	(24,469)
Basic net income (loss) per share (1)	(2.26)	(0.23)	(0.59)	(0.77)	(0.68)
Diluted net income (loss) per share (1)	(2.26)	(0.23)	(0.59)	(0.77)	(0.68)

(1) The sum of the quarterly net income per share amounts will not necessarily equal net income per share for the year due to the use of weighted average quarterly shares and the effects of rounding.

Included in third quarter 2016 net income was a \$4.0 million pretax gain related to the 2015 sale of Slingo, (2) described in Note 3. Acquisitions and Disposals, and a \$2.0 million pretax gain related to the sale of an intangible asset, described in Note 7. Other Intangible Assets.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders

RealNetworks, Inc.:

We have audited the accompanying consolidated balance sheets of RealNetworks, Inc. and subsidiaries as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income (loss), shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2016. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of RealNetworks, Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), RealNetworks, Inc.'s internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 27, 2017 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

/s/ KPMG LLP

Seattle, Washington

February 27, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders

RealNetworks, Inc.:

We have audited RealNetworks, Inc.'s internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). RealNetworks, Inc.'s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting (Item 9A). Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, RealNetworks, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of RealNetworks, Inc. and subsidiaries as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income (loss), shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2016, and our report dated February 27, 2017 expressed an unqualified opinion on those consolidated financial statements.

/s/ KPMG LLP
Seattle, Washington
February 27, 2017

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure
Not applicable.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Our management, with the participation of the principal executive officer and principal financial officer, has evaluated the effectiveness of our “disclosure controls and procedures” (as such term is defined under Rule 13a-15(e) and 15d-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the Exchange Act)). Based on their evaluation, the principal executive officer and principal financial officer concluded that, as of the end of the period covered by this report, our disclosure controls and procedures were effective for the purpose of ensuring that the information required to be disclosed in the reports that we file or submit under the Exchange Act (1) is recorded, processed, summarized, and reported within the time period specified in the Securities and Exchange Commission rules and forms and (2) is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Management’s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our evaluation, our management concluded that, as of December 31, 2016, RealNetworks maintained effective internal control over financial reporting.

KPMG LLP, an independent registered public accounting firm, has issued an attestation report on the effectiveness of our internal control over financial reporting as of December 31, 2016. This attestation is included within Item 8.

Changes in Internal Control over Financial Reporting

Our management, with the participation of the principal executive officer and principal financial officer, has evaluated the changes to our internal control over financial reporting that occurred during the fiscal quarter ended December 31, 2016 as required by paragraph (d) of Rules 13a-15 and 15d-15 of the Exchange Act and has concluded that there were no such changes that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

Not applicable.

PART III.

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item is incorporated by reference to the information contained in part in the sections captioned “Proposal 1–Election of Directors,” “Board of Directors,” and “Voting Securities and Principal Holders” of the Proxy Statement relating to RealNetworks’ 2017 Annual Meeting of Shareholders or in an amendment to this 10-K, to be filed with the Securities and Exchange Commission within 120 days after the fiscal year ended December 31, 2016.

Item 11. Executive Compensation

The information required by this Item is incorporated by reference to the information contained in the section captioned “Executive Compensation” of the Proxy Statement relating to RealNetworks’ 2017 Annual Meeting of Shareholders or in an amendment to this 10-K, to be filed with the Securities and Exchange Commission within 120 days after the fiscal year ended December 31, 2016.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters

The information required by this item is incorporated by reference to the information contained in the section captioned “Voting Securities and Principal Holders” of the Proxy Statement relating to RealNetworks’ 2017 Annual Meeting of Shareholders or in an amendment to this 10-K, to be filed with the Securities and Exchange Commission within 120 days after the fiscal year ended December 31, 2016.

Equity Compensation Plans

As of December 31, 2016, we had awards outstanding under four equity compensation plans. These plans, which have all been approved by our shareholders, include the RealNetworks, Inc. 1995 Stock Option Plan (1995 Plan), the RealNetworks, Inc. 1996 Stock Option Plan, as amended and restated (1996 Plan), the RealNetworks, Inc. 2005 Stock Incentive Plan, as amended and restated (2005 Plan), and the RealNetworks, Inc. 2002 Director Stock Option Plan (2002 Plan). In addition, we maintain the RealNetworks, Inc. 2007 Employee Stock Purchase Plan, as amended and restated October 2010 (2007 ESPP).

In 2005, our shareholders approved the 2005 Plan and upon this approval of the 2005 Plan, we terminated the 1995 Plan, the 1996 Plan, and the 2002 Plan. In 2007, our shareholders approved an amended and restated 2005 Plan, and upon this approval, we terminated the RealNetworks, Inc. Director Compensation Stock Plan. As a result of the termination of these Plans, all new equity awards will be issued under the 2005 Plan. In 2007, our shareholders also approved the 2007 ESPP.

The following table aggregates the data from our plans (in thousands):

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights (in 000’s)(a)	Weighted-average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (in 000’s)(c)	
Equity compensation plans approved by security holders	6,193	\$ 5.73	6,479	(1)(2)
Equity compensation plans not approved by security holders	—	-	—	
Total	6,193	\$ 5.73	6,479	(3)

(1) On January 1, 2008, the 2007 ESPP became effective. Column (c) above excludes an aggregate of 0.3 million shares of the Company’s common stock that are authorized for issuance pursuant to the 2007 ESPP.

Includes shares available for future issuances pursuant to the RealNetworks, Inc. 2007 Director Compensation Stock Plan (2007 Director Plan), a sub-plan that operates and is administered under the 2005 Plan. Under the

(2) 2007 Director Plan, outside directors may elect to receive all or a portion of his or her quarterly director compensation in shares of the Company’s common stock in lieu of cash. Shares issued to directors under the 2007 Director Plan are issued from the shares reserved under the 2005 Plan.

The total securities in column (a) include 5,861 stock options and 332 restricted stock units and awards. The (3) weighted average exercise prices in columns (b) relate to the stock options only; restricted stock units and awards have no exercise price.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated by reference to the information contained in the section captioned “Executive Compensation—Policies and Procedures with Respect to Related Person Transactions” and “Election of Directors—Director Independence” of the Proxy Statement relating to RealNetworks’ 2017 Annual Meeting of Shareholders or in an amendment to this 10-K, to be filed with the Securities and Exchange Commission within 120 days after the fiscal year ended December 31, 2016.

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference to the information contained in the section captioned “Proposal 2–Ratification of Appointment of Independent Registered Public Accounting Firm” of the Proxy Statement relating to RealNetworks’ 2017 Annual Meeting of Shareholders or in an amendment to this 10-K, to be filed with the Securities and Exchange Commission within 120 days after the fiscal year ended December 31, 2016.

PART IV.

Item 15. Exhibits and Financial Statement Schedules

(a)(1) Index to Consolidated Financial Statements

The following consolidated financial statements of RealNetworks, Inc. and subsidiaries are filed as part of this report:

Consolidated Balance Sheets — December 31, 2016 and 2015

Consolidated Statements of Operations and Comprehensive Income (Loss) — Years Ended December 31, 2016, 2015, and 2014

Consolidated Statements of Cash Flows — Years Ended December 31, 2016, 2015, and 2014

Consolidated Statements of Shareholders' Equity — Years Ended December 31, 2016, 2015, and 2014

Notes to Consolidated Financial Statements

Reports of Independent Registered Public Accounting Firm

(a)(2) Financial Statement Schedules

All financial statement schedules have been omitted since they are either not required, not applicable, or because the information required is included in the consolidated financial statements or the notes thereto.

(a)(3) Index to Exhibits

See Index to Exhibits below.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Seattle, State of Washington, on February 27, 2017.

REALNETWORKS, INC.

BY: /s/ ROBERT GLASER

Robert Glaser

Chairman of the Board and Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below hereby constitutes and appoints Robert Glaser and Michael Parham, and each of them severally, his or her true and lawful attorneys-in-fact and agents, with full power to act without the other and with full power of substitution and resubstitution, to execute in his or her name and on his or her behalf, individually and in each capacity stated below, any and all amendments and supplements to this Report, and any and all other instruments necessary or incidental in connection herewith, and to file the same with the Commission. Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated below on February 27, 2017.

Signature	Title
/s/ _____ ROBERT GLASER _____ Robert Glaser	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)
/s/ _____ MARJORIE THOMAS _____ Marjorie Thomas	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)
/s/ _____ BRUCE A. JAFFE _____ Bruce A. Jaffe	Director
/s/ _____ CHRISTOPHER R. JONES _____ Christopher R. Jones	Director
/s/ _____ DAWN G. LEPORE _____ Dawn G. Lepore	Director
/s/ _____ JANICE ROBERTS _____ Janice Roberts	Director
/s/ _____ MICHAEL B. SLADE _____ Michael B. Slade	Director
/s/ _____ DOMINIQUE TREMPONT _____ Dominique Trempont	Director

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Exhibit Index

Exhibit No.	Exhibit Description	Incorporated by Reference		
		Form No.	SEC File No.	Exhibit Filing Date
2.1	Transaction, Contribution and Purchase Agreement dated as of February 9, 2010 among Rhapsody America LLC, RealNetworks, Inc., RealNetworks Digital Music of California, Inc., Viacom International Inc. and DMS Holdco Inc.	8-K	000-23137	2.1 04/06/10
2.2	Asset Purchase Agreement dated as of January 26, 2012, by and between RealNetworks, Inc. and Intel Corporation. Certain schedules and exhibits referenced in the Asset Purchase Agreement have been omitted in accordance with Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule or exhibit will be furnished supplementally to the Securities and Exchange Commission upon request.	8-K	000-23137	2.1 01/30/12
3.1	Amended and Restated Articles of Incorporation	10-Q	000-23137	3.1 08/11/00
3.2	Articles of Amendment to the Amended and Restated Articles of Incorporation	8-K	000-23137	3.1 08/31/11
3.3	Amended and Restated Bylaws effective July 23, 2010	8-K	000-23137	3.1 07/29/10
4.1	Amended and Restated Shareholder Rights Plan dated as of December 2, 2008, by and between RealNetworks, Inc. and Mellon Investor Services LLC including the form of Certificate of Designation, the form of Rights Certificate and the Summary of Rights attached thereto as Exhibits A, B and C, respectively	8-K	000-23137	4.1 12/03/08
4.2	Amendment to Amended and Restated Shareholder Rights Plan, dated as of April 15, 2016, between RealNetworks, Inc. and Computershare, Inc. (as successor to Mellon Investor Services, LLC.), as rights agent	8-K	000-23137	4.1 04/15/16
10.1	Shareholder Rights Plan Exception Agreement, dated as of April 15, 2016, between RealNetworks, Inc. and Ariel Investments, LLC	8-K	000-23137	10.1 04/15/16
10.2	† RealNetworks, Inc. 1995 Stock Option Plan	S-8	333-63333	99.1 09/14/98
10.3	† RealNetworks, Inc. 1996 Stock Option Plan, as amended and restated on *September 19, 2016			
10.4	† RealNetworks, Inc. 2000 Stock Option Plan, as amended and restated on † June 1, 2001	10-Q	000-23137	10.2 08/13/01
10.5	† Amendment No. 1 to the RealNetworks, Inc. 2000 Stock Option Plan, as amended and restated on June 1, 2001 (effective December 17, 2009)	8-K	000-23137	10.2 12/21/09
10.6	† Amendment No. 2 to the RealNetworks, Inc. 2000 Stock Option Plan, as *amended and restated on June 1, 2001 (effective September 19, 2016)			
10.7	† RealNetworks, Inc. 2002 Director Stock Option Plan	10-Q	000-23137	10.2 07/25/02
10.8	† Form of Stock Option Agreement under the RealNetworks, Inc. 1996 Stock Option Plan, as amended and restated	10-Q	000-23137	10.1 11/14/02
10.9	† Form of Stock Option Agreement under the RealNetworks, Inc. 2000 Stock Option Plan, as amended and restated	10-Q	000-23137	10.2 11/14/02
10.10	† Forms of Stock Option Agreement under the RealNetworks, Inc. 2002 Director Stock Option Plan	10-Q	000-23137	10.3 11/14/02
10.11	† RealNetworks, Inc. 2007 Employee Stock Purchase Plan as amended and restated effective October 18, 2010	10-K	000-23137	10.10 03/16/11
10.12	† RealNetworks, Inc. 2007 Director Compensation Stock Plan	10-K	000-23137	10.9 02/29/08
10.13	† RealNetworks, Inc. 2005 Stock Incentive Plan, as amended and restated *effective September 19, 2016			

10.14 Form of Non-Qualified Stock Option Terms and Conditions for use under
† the RealNetworks, Inc. 2005 Stock Incentive Plan, as amended and restated 10-K 000-23137 10.13 03/18/13

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Exhibit No.	Exhibit Description	Incorporated by Reference		
		Form	SEC File No.	Exhibit Filing Date
10.15	† Form of Restricted Stock Units Terms and Conditions for use under the RealNetworks, Inc. 2005 Stock Incentive Plan, as amended and restated	10-K	000-23137	10.14 03/18/13
10.16	† Form of Performance Restricted Stock Units Terms and Conditions for use under the RealNetworks, Inc. 2005 Stock Incentive Plan, as amended and restated	10-K	000-23137	10.15 03/18/13
10.17	Office Building Lease dated May 2, 2013 between 1501 First Avenue South Limited Partnership, as landlord, and RealNetworks, Inc., as tenant	10-Q	000-23137	10.2 08/08/13
10.18	† Form of Director and Officer Indemnification Agreement Voting Agreement dated September 25, 1997 by and among	S-1	333-36553	10.14 09/26/97
10.19	RealNetworks, Robert Glaser, Accel IV L.P., Mitchell Kapor and Bruce Jacobsen	S-1	333-36553	10.17 09/26/97
10.2	Agreement dated September 26, 1997 by and between RealNetworks and Robert Glaser	S-1	333-36553	10.18 09/26/97
10.21	† Offer Letter dated July 24, 2014 between RealNetworks, Inc. and Robert Glaser	10-Q	000-23137	10.2 11/06/14
10.22	† Offer Letter dated May 31, 2014 between RealNetworks, Inc. and Michael Mulica	10-Q	000-23137	10.1 08/07/14
10.23	† Transition and Release Agreement dated March 30, 2016 between RealNetworks, Inc. and Michael Mulica	10-Q	000-23137	10.2 05/06/16
10.24	† Offer Letter dated January 7, 2013 between RealNetworks, Inc. and Max Pellegrini	10-Q	000-23137	10.1 05/08/13
10.25	† Promotion Letter dated August 24, 2012 between RealNetworks, Inc. and Michael Parham	10-Q	000-23137	10.3 08/08/13
10.26	† Offer Letter dated between RealNetworks, Inc. and Marjorie Thomas	10-K	000-23137	10.25 02/25/15
10.27	† Offer Letter dated September 13, 2016 between RealNetworks, Inc. and William Patrizio	10-Q	000-23137	10.26 11/04/16
10.28	† Form of Amended and Restated Change in Control and Severance Agreement for Executive Officers	10-Q	000-23137	10.5 08/09/11
10.29	† Form of MBO Plan Document under the RealNetworks, Inc. 2013 Executive Compensation Program	8-K	000-23137	10.1 03/29/13
10.30	† Form of MBO Plan Document under the RealNetworks, Inc. 2014 Executive Compensation Program	8-K	000-23137	10.1 02/13/14
10.31	† Form of MBO Plan Document under the RealNetworks, Inc. 2015 Executive Compensation Program	8-K	000-23137	10.1 02/24/15
10.32	† Form of MBO Plan Document under the RealNetworks, Inc. 2016 Executive Compensation Program	8-K	000-23137	10.1 05/03/16
10.33	s Amended and Restated Settlement Agreement dated as of March 10, 2006 between RealNetworks, Inc. and Microsoft Corporation	10-K	000-23137	10.24 03/16/06
10.34	s Transaction, Contribution and Purchase Agreement dated as of August 20, 2007 by and among Rhapsody America LLC, RealNetworks, Inc., RealNetworks Digital Music of California, Inc., Viacom International Inc. and DMS Holdco Inc.	10-Q	000-23137	10.1 11/09/07
10.35	Amended and Restated Stockholder Agreement dated as of November 30, 2011 among Rhapsody International Inc., RealNetworks, Inc., RealNetworks Digital Music of California, Inc., Viacom International Inc., Napster, LLC, Best Buy Co., Inc. and DMS Holdco Inc.	10-K	000-23137	10.43 02/29/12
10.36	s	8-K/A	000-23137	10.1 04/11/12

License Agreement, dated as of January 26, 2012, by and between
RealNetworks, Inc. and Intel Corporation

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Exhibit No.	Exhibit Description	Incorporated by Reference	
		SEC FormFile No.	Exhibit Filing Date
21.1	* Subsidiaries of RealNetworks, Inc.		
23.1	* Consent of KPMG LLP		
24.1	* Power of Attorney (included on signature page)		
31.1	* Certification of Robert Glaser, Chief Executive Officer of RealNetworks, Inc., pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002		
31.2	* Certification of Marjorie Thomas, Senior Vice President, Chief Financial Officer and Treasurer of RealNetworks, Inc., pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002		
32.1	** Certification of Robert Glaser, Chief Executive Officer of RealNetworks, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002		
32.2	** Certification of Marjorie Thomas, Senior Vice President, Chief Financial Officer and Treasurer of RealNetworks, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002		
101.INS	* XBRL Instance Document		
101.SCH	* XBRL Taxonomy Extension Schema Document		
101.CAL	* XBRL Taxonomy Extension Calculation Linkbase Document		
101.LAB	* XBRL Taxonomy Extension Label Linkbase Document		
101.PRE	* XBRL Taxonomy Extension Presentation Linkbase Document		
101.DEF	* XBRL Taxonomy Extension Definition Linkbase Document		
†	Indicates management contract or compensatory plan.		
s	Portions of this exhibit are omitted and were filed separately with the Securities and Exchange Commission pursuant to an application requesting confidential treatment under Rule 24b-2 of the Securities Exchange Act of 1934.		
*	Filed herewith.		
**	Furnished herewith.		