

REALNETWORKS INC

FORM 10-K (Annual Report)

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year Ended December 31, 2017

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 1-37745

RealNetworks, Inc.

(Exact name of registrant as specified in its charter)

Washington

(State of incorporation)

91-1628146

(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:

Table with 2 columns: Title of Each Class, Name of Each Exchange on Which Registered. Rows include Common Stock and Preferred Share Purchase Rights.

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

None

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

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 [X]

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 [X] 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 [X] 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, smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer []

Non-accelerated filer []

(Do not check if a smaller reporting company)

Accelerated filer [X]

Smaller reporting company []

Emerging growth company []

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. []

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

The aggregate market value of the common stock held by non-affiliates of the registrant was \$ 104 million on June 30, 2017, 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 23, 2018 was 37,341,387.

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 2018 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, 2017.

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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 technology products 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 our digital media products and services to consumers, mobile carriers, device manufacturers and other businesses.

Consumers use our digital media products and services to store, organize, play, manage and enjoy their digital media content, either directly from us or through our distribution partners. Our consumer products and services include our casual games, our ringback tone and messaging tools, and RealPlayer, our widely distributed media player. Our video compression technology is licensed primarily to OEMs, including manufacturers of mobile devices, smart TVs, and set-top boxes. The monetization, distribution, and licensing of our technology products and services are heavily dependent on contracts with third parties, such as mobile carriers and device manufacturers.

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 ("10-K") for the year ended December 31, 2017, RealNetworks, Inc., together with its subsidiaries, is referred to as "RealNetworks," the "Company," "we," "us," or "our." "RealPlayer," "RealMedia," and other trademarks of ours appearing in this report are our property.

Segments

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, IT, 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.

Consumer Media

In our Consumer Media segment, revenue is primarily derived from the licensing of our portfolio of video codecs. Codecs are an encoding and decoding technology which are designed to reduce the amount of bits required to stream or store media content, and modern codecs achieve significant savings in streaming bandwidth and storage costs. Our latest codec technology, RealMedia High Definition, which we refer to as RealMedia HD or RMHD, offers significant compression advantages over our prior-generation codec, RealMedia Variable Bitrate, or RMVB, which is still widely used. Our codec technologies business is primarily focused in the Chinese market, where RMVB is a popular format and also where we continue to focus most of our efforts to date regarding RMHD.

We continue to develop and innovate our codec technology to meet or exceed user demands for increasing compression efficiency and visual quality. We license our codec technology to a variety of electronic equipment, microchip, and integrated circuit manufacturers who embed our codec in their products, including mobile devices, laptops, smart TVs and other devices. To ensure a robust ecosystem for our codec technologies, we also promote the use of our codec technology to producers of media content and users of RealPlayer, thus encouraging the widespread adoption by device manufacturers.

We also generate revenue through online sales to consumers of our PC-based RealPlayer subscription products, including our SuperPass service, which provides consumers with access to digital entertainment content for a monthly fee. The RealPlayer media player, our enduring yet continually evolving software product, 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. As part of our RealPlayer download process, we also offer distribution of third-party software products to consumers, which generates additional revenue.

Mobile Services

Mobile Services consists of the various 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 messaging products, which include our intercarrier messaging service and our recently introduced text message management, anti-spam, and classification product, Kontxt, and our ringback tone service. We provide these services to a large number of mobile carriers around the world, although a significant portion of our revenue for this segment results from contracts with a few mobile carriers. Also included in this segment is our RealTimes platform, which we offer to mobile carriers for incorporation in their hosted cloud solutions.

We also offer business intelligence, subscriber management and billing for the carriers who make our offerings available to their customers.

Our intercarrier messaging platform enables operators to send and receive SMS messages worldwide between networks and service providers, regardless of network technology, typically processing billions of SMS messages per day between users on hundreds of different networks. We earn revenue from our intercarrier messaging service based on a revenue-sharing arrangement with one service partner. During the fourth quarter of 2017, we introduced our next-generation mobile messaging platform, Kontxt, which evaluates message streams sent from an application to a person (A2P) and classifies those messages into various categories. This allows network operators and other service providers to create policies for prioritization and delivery of messages and blocking spam and fraudulent messages, resulting in more efficient text message delivery.

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 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 photo and video sharing platform, RealTimes, is offered to wireless carriers for integration in their hosted cloud solutions. Within our Mobile Services group, we focus on leveraging current and prospective wireless carrier relationships to increase integration of the RealTimes platform.

In December 2017, we exited our low-margin music on demand service in Korea. As the profits generated from this business had significantly declined over time, we did not seek renewal of the sole contract for this service. Accordingly, this business is reported as discontinued operations in our financial statements for the periods disclosed in this 10-K.

Games

Our Games segment is focused on the development, publishing, and distribution of casual games, which are offered via mobile devices, digital downloads, and subscription play. 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. In the mobile market, we are focused on creating a large and diverse portfolio of products that combine casual game play and storytelling. We call this product line GameHouse Original Stories (Original Stories). Our Original Stories are based on a series of characters including Emily (Delicious Franchise), Amanda (Heart's Medicine) and Angela (Fabulous). The portfolio continues to grow as new characters and story lines are developed. Original Stories are primarily developed by our in-house game studios or through partnerships with external game developers for both mobile and PC play. Also offered to our customers are games licensed to us by third parties.

Our mobile games are digitally distributed through third-party application storefronts, such as the Apple App Store and Google Play, and are principally offered in North America, Europe and Latin America. As they are released, new games are typically introduced to consumers through offering a free trial before purchase on an individual basis. After reaching a certain level in game play, consumers then have the option to purchase the full game. In addition to the sale of mobile games, we also generate revenue through advertising shown to consumers during play.

PC consumers can access and play both our Original Stories and hundreds of third party games through individual purchases or a subscription service offered through our GameHouse and Zylom websites, and through websites owned or managed by third parties. Consistent with our mobile offerings, 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.

See Note 19. Segment Information , in this 10-K for additional details on our segments and geographic concentrations.

Napster (formerly branded as Rhapsody)

At December 31, 2017 , we owned approximately 42% of the issued and outstanding stock of Napster. Since the Rhapsody streaming music service has been re-branded as Napster, all references to Napster in this Annual Report on Form 10-K will refer to Rhapsody International, Inc., d/b/a Napster. See Note 4. Napster Joint Venture , in this 10-K for additional details. Napster provides music products and services that enable consumers to have access to digital music content from a variety of devices. The Napster 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. Napster 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. Napster 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 Europe and Asia, were 48% , 49% and 49% of our revenue during the years ended December 31, 2017 , 2016 and 2015 , respectively. See Note 19. 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, 2017 , 2016 , and 2015 , we expended 38% , 37% and 47%, 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, electronic and other online media, 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 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. We also employ a sales team in China which works with distribution partners on marketing of our codec technologies.

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 GameHouse and Zylom websites and through third-party distribution channels, such as application storefronts, search engines, online portals, 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 codec technology faces competition from other next-generation video codecs, and many of our competitors have come together in patent pools to market and license competing codecs. In order to be successful, we must withstand the inherent market penetration that arises when multiple companies promote a shared codec solution. Our RealPlayer media player also continues to face competition from alternative streaming media playback applications which have obtained very broad market penetration.

In our Mobile Services segment, 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 and publishers of casual games for PC and mobile platforms. Our in-house game development studios compete with other developers and publishers of mobile games based on our ability to create high quality games that resonate with consumers, and our ability to secure broad distribution.

Intellectual Property

As of December 31, 2017, we had 19 U.S. patents, 23 South Korean patents, 11 patents in other countries and more than 25 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, or sell or abandon patents or applications that are no longer relevant or valuable to our operations.

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, 2017, we had approximately 456 employees, of which 140 were based in the Americas, 109 were based in Asia, and 207 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.realnworks.com. We make available free of charge on www.investor.realnworks.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 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.

Our restructuring efforts and growth plans are ambitious and could be unsuccessful, which would have a material adverse effect on our business and financial results.

For the past several years, we have taken steps to reduce costs and increase profitability by restructuring our businesses and streamlining our operations. We have also developed new products and technologies and funded initiatives intended to create or support growth in our businesses and financial results. These restructuring efforts and growth initiatives have impacted all segments of our organization.

The simultaneous execution of all of these activities is complex and ambitious, thereby imposing increased pressure on our reduced human and capital resources, requiring us to allocate limited resources among our diverse business units. These efforts may cause uncertainty around the future direction of our product and service offerings and growth prospects.

Given the ambitious nature of our restructuring and streamlining efforts and our growth initiatives, there is substantial risk that we may be unsuccessful in managing the potential strain on our resources, our cash reserves may be insufficient to fully implement our plans, our growth initiatives may not gain adequate momentum, or the combination of our streamlining efforts and growth initiatives may not prove to be profitable. In any such case, our business would suffer, and our operational and financial results would be negatively impacted to a significant degree. Our stock price would suffer as a result.

We need to successfully monetize our new products and services in order to sustain and grow our businesses, and manage our cash resources.

In order to sustain our current level of business and to implement our growth plans, we must successfully monetize our new products and services, including through existing and new relationships with distribution partners. Our digital media products and services must be attractive and useful to subscribers and consumers, whether direct from us or through our distribution partners. The successful acceptance and monetization of these products and services, therefore, is 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 the effectiveness of our distribution channels. Any failure by us to timely and accurately anticipate consumers' changing needs and wants, emerging technological trends or changes in the competitive landscape for our products and services could result in a failure to monetize our new products or the loss of market opportunities.

Moreover, in order to grow our businesses, we 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. We may not realize a sufficient return, or may experience losses, on these investments, thereby straining our limited cash resources and negatively affecting our ability to pursue other growth or strategic opportunities.

Sustaining and growing our businesses, and managing our cash resources, are subject to these risks inherent in developing, distributing and monetizing our new products and services. Our failure to manage these risks could negatively impact our financial results to a significant degree.

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 products or services, or to pay damages, any of which could constrain our growth plans and cash resources.

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 Consumer Media technologies 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, and also to other partners that can support our efforts to build a strong ecosystem, like content providers and integrated circuit developers. 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 more quickly or efficiently 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 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.

The distribution and license of our technology products and services are governed by contracts with third parties, the terms of which subject us to significant risks that could negatively impact our revenue, expenses and assumption of liability related to such contracts.

In our Consumer Media and Mobile Services segments, we distribute and license most of our technology products and services pursuant to contracts with third parties, such as mobile carriers and their partners, online service providers, and OEMs and device manufacturers, many of whom may have stronger negotiating leverage due to their size and reach. These contracts govern the calculation of revenue generated and expenses incurred, how we recognize revenue and expenses in our financial statements, and the allocation of risk and liabilities arising from the product or service or distribution thereof. Terms impacting revenue, over which we may have limited if any control, may involve revenue sharing arrangements, end user pricing, usage levels, and exclusivity, all of which materially affect the level of revenue that we may realize from the relationship. Moreover, contract terms around marketing and promotion of our products and other expense allocation could result in us bearing higher expenses or achieving weaker performance than we had anticipated from the relationship.

In addition, although our contracts with third parties are typically for a fixed duration, they could be terminated early; and they may be renegotiated on less favorable terms or may not be renewed at all by the other party. We must, therefore, seek additional contracts with third parties on an ongoing basis to sustain and grow our business. We expect to face continuing and increased competition for the technology products and services we 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 technology products and services. The loss of existing contracts, the failure to enter new contracts, or the deterioration of terms in our contracts with third parties could materially harm our operating results and financial condition.

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.

We may not be successful in maintaining revenue associated with the distribution of our legacy digital media products.

Maintaining and growing the distribution of digital media products through our websites and our other distribution channels has historically been an important revenue driver for 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. This will also impair 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. Historically, most of our revenue from the distribution of third-party products was derived from a single contract, and the terms of this relationship have significantly deteriorated over the years. Our distribution revenue has been, and will continue to be, materially negatively impacted by these factors.

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 further 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, again causing further 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 ("GAAP"), we test goodwill for possible impairment on an annual basis 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, 2017 was \$17 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 typically 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, 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.

Napster could continue to recognize losses, or we may modify our relationship with Napster 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, now doing business under the Napster brand. As a result of the restructuring, we no longer have operational control over Napster and Napster's operating performance is no longer consolidated with our consolidated financial statements. We disclose only limited strategic, business and financial information regarding Napster in our financial statements and disclosures, in accordance with GAAP. Napster has generated accounting losses since its inception, and we have recognized our share of such losses on our investment in its convertible preferred stock. We continue to track additional losses incurred by Napster whether or not we recognize them, but in certain circumstances, which have occurred in the past and may occur again in the future, proper accounting treatment may cause us to recognize additional losses on our investment in Napster. Consequently, Napster's past or future performance may continue to have an adverse effect on our financial condition, results of operations, or perceived value. See Note 4. Napster Joint Venture, in this 10-K, for further discussion of our relationship with Napster, including information about the accounting treatment related to the investment in Napster.

As a significant shareholder of Napster we have been in the past and may be in the future faced with a decision as to whether or not it is in the long term interest of RealNetworks to take certain actions with respect to Napster, such as extending a loan, making a further equity investment or providing an additional financial guarantee (as we did during the fourth quarter of 2017), any of which could reduce our available cash or liquidity, and any such action could result in the recognition of additional losses associated with our investment in Napster. The extent of any such potential action is likely to be influenced by whether Napster is able to secure and maintain adequate funding, experiences further declines in its operating results, or is unsuccessful in growing or improving its business or financial condition. Some or all of our decisions or actions related to Napster could have, or increase the risk to us of, an adverse effect on our financial condition, results of operations, liquidity or perceived value.

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

Given the current proportion of the outstanding equity of Napster that we hold, we need to receive Napster's unaudited quarterly financial statements and related information in order to timely prepare our quarterly consolidated financial statements and also to report certain of Napster'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 Napster's annual audited financial statements in our 10-K in future periods. As we no longer exert operational control over Napster, we cannot guarantee that Napster 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 Napster will not contain inaccuracies that are material to our reported results. Any failure to timely obtain Napster's quarterly financial statements or to include its audited financial statements in our future 10-Ks, 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. Napster Joint Venture, for further information related to our investment in Napster.

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. We cannot provide assurance that we will effectively manage these recent or future 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 GAAP, 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.

Changes in accounting standards and subjective assumptions, estimates, and judgments by management related to complex accounting matters could significantly affect our financial results or financial condition.

We prepare our financial statements in conformity with GAAP. These accounting principles are subject to interpretation or changes by the Financial Accounting Standards Board (“FASB”) and the SEC, and new accounting pronouncements and varying interpretations of accounting standards and practices have occurred in the past and are expected to occur in the future. Moreover, our financial statements require the application of judgments and estimates regarding a wide range of matters that are relevant to our business, such as revenue recognition, asset impairment and fair value determinations, stock-based compensation, equity method accounting, and intangible asset valuations. Changes in accounting standards or practices, or in our judgments and estimates underlying accounting standards and practices, could harm our operating results and/or financial condition. An example of a new accounting pronouncement is Accounting Standards Update (“ASU”) 2014-09 related to revenue recognition. As discussed in Note 2 to the accompanying notes to the consolidated financial statements, ASU 2014-09 will change the way we recognize revenue and will impact the timing of revenue recognition. In addition, subjective judgments and estimates are often necessary in our accounting for investments, such as Napster. Changes to existing accounting rules or to our judgments and estimates underlying those rules could materially impact our reported operating results and financial condition.

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.

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 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:

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

(1) As of December 31, 2017, we have reduced our use of the facility by 69%. The space which we no longer occupy 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 17. Commitments and Contingencies**, in this 10-K.

Item 3. *Legal Proceedings*

See **Note 17. 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.

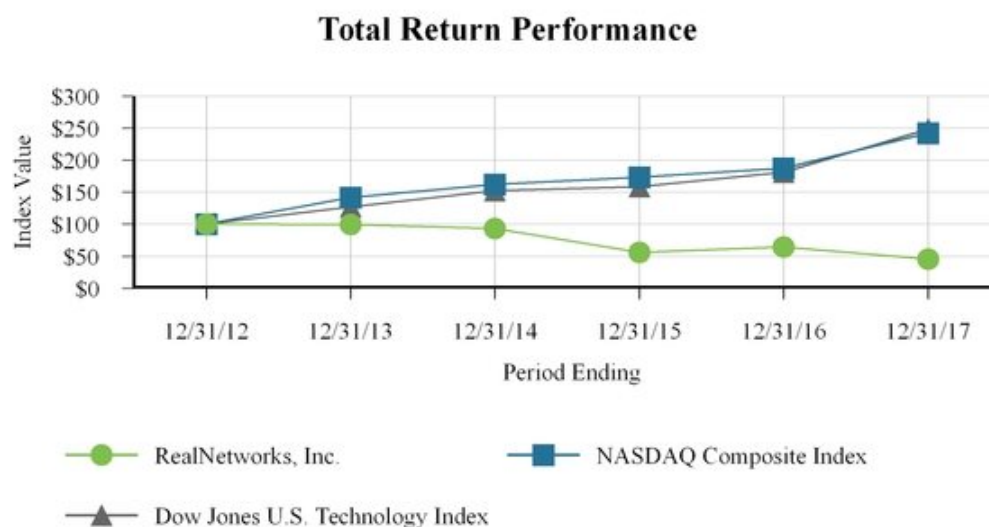
The high and low intraday sales prices for our common stock were as follows:

	Years Ended December 31,							
	2017				2016			
	High		Low		High		Low	
First Quarter	\$	5.45	\$	4.50	\$	4.43	\$	3.04
Second Quarter		4.84		4.11		4.65		4.00
Third Quarter		4.92		3.90		5.10		3.97
Fourth Quarter		5.00		3.40		5.14		4.09

As of January 31, 2018, there were approximately 179 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 2017 or 2016.

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, 2012 and ended on December 31, 2017.



The total return on our common stock and each index assumes the value of each investment was \$100 on December 31, 2012, 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,				
	2017	2016	2015	2014	2013
(In thousands, except per share data)					
Consolidated Statements of Operations Data:					
Net revenue	\$ 78,718	\$ 81,479	\$ 92,448	\$ 122,343	\$ 177,256
Cost of revenue	23,164	27,548	39,520	46,109	54,094
Extinguishment of liability	—	—	—	(10,580)	—
Gross profit	55,554	53,931	52,928	86,814	123,162
Operating expenses:					
Research and development	29,710	29,923	43,626	52,765	60,880
Sales and marketing	22,953	31,608	48,231	66,926	79,893
General and administrative	20,996	27,415	24,549	34,001	36,638
Restructuring and other charges	2,526	1,489	5,279	4,992	5,765
Lease exit and related charges	—	2,239	2,501	880	3,089
Loss on litigation settlements	—	—	—	—	11,525
Total operating expenses	76,185	92,674	124,186	159,564	197,790
Operating income (loss)	(20,631)	(38,743)	(71,258)	(72,750)	(74,628)
Other income (expense), net (A)	439	1,746	(13,494)	(1,382)	16,721
Income (loss) from continuing operations before income taxes	(20,192)	(36,997)	(84,752)	(74,132)	(57,907)
Income tax expense (benefit)	(2,778)	776	(1,290)	489	4,063
Net income (loss) from continuing operations	(17,414)	(37,773)	(83,462)	(74,621)	(61,970)
Net income (loss) from discontinued operations, net of tax	1,109	1,223	1,615	2,806	2,980
Net income (loss)	\$ (16,305)	\$ (36,550)	\$ (81,847)	\$ (71,815)	\$ (58,990)
Net income (loss) per share - diluted:					
Continuing operations	(0.47)	(1.02)	(2.31)	(2.08)	(1.74)
Discontinued operations	0.03	0.03	0.05	0.08	0.08
Net income (loss) per share - diluted	\$ (0.44)	\$ (0.99)	\$ (2.26)	\$ (2.00)	\$ (1.66)
Shares used to compute diluted net income (loss) per share	37,163	36,781	36,165	35,947	35,553

(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,				
	2017	2016	2015	2014	2013
(In thousands)					
Consolidated Balance Sheets Data:					
Cash, cash equivalents, and short-term investments	\$ 59,975	\$ 77,052	\$ 99,129	\$ 161,706	\$ 226,155
Working capital	55,157	66,304	91,373	136,429	191,522
Total assets	121,496	130,437	161,343	250,299	342,781
Shareholders’ equity	79,173	88,581	120,683	197,198	268,981

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

Overview

RealNetworks creates innovative technology products and services that make it easy to connect with and enjoy digital media. 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 primarily derived from the licensing of our video compression, or codec, technology, including our latest technology, RealMedia High Definition, or RMHD. We also generate revenue from the sales of our PC-based RealPlayer products, including RealPlayer Plus and related products. These products and services are delivered directly to consumers and through partners, such as OEMs and mobile device manufacturers.

Our Mobile Services business generates revenue primarily from the sale of SaaS services, which include our intercarrier messaging service, ringback tones, and the integration of our RealTimes platform. We generate a significant portion of our revenue from sales within our Mobile Services business from a few mobile carriers. The loss of these contracts 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.

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 and within our games.

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 to our reportable segments certain corporate expenses which are directly attributable to supporting our businesses, including but not limited to a portion of finance, IT, legal, human resources and headquarters facilities. Remaining expenses, which are not directly attributable to supporting the business, are reported as corporate items. Corporate expenses also include restructuring charges, lease exit and related charges, as well as stock compensation expense.

On December 31, 2017, our contract with LOEN Entertainment, Co, Ltd. (LOEN) for our music on demand services expired. As the profits generated from this business had significantly declined over time, we did not renew the sole contract for this service. Accordingly, we have reported the operating results of this business as discontinued operations for all periods presented. The assets and liabilities of the music on demand business at December 31, 2017 and 2016 have been reported as assets and liabilities of discontinued operations in the Consolidated Balance Sheet. Refer to Note 16 to our consolidated financial statements for additional information on these discontinued operations. Unless otherwise noted, amounts and percentages for all periods discussed below reflect the results of operations and financial condition of our continuing operations.

In 2017 our consolidated revenue declined by \$2.8 million compared with 2016, due to a decrease of \$2.5 million in Consumer Media revenue and \$0.5 million in Mobile Services revenue. These decreases were offset by an increase of \$0.3 million in Games revenue. See below for further information regarding fluctuations by segment.

As of December 31, 2017, we had \$60.0 million in unrestricted cash, cash equivalents and short-term investments, compared to \$77.1 million as of December 31, 2016. The 2017 decrease in cash, cash equivalents, and short-term investments from December 31, 2016 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 \$16.5 million decline in our operating expenses during 2017 compared to 2016.

Summary of Results

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

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2017-2016</u> <u>Change</u>	<u>%</u> <u>Change</u>	<u>2016-2015</u> <u>Change</u>	<u>%</u> <u>Change</u>
Total revenue	\$ 78,718	\$ 81,479	\$ 92,448	\$ (2,761)	(3)%	\$ (10,969)	(12)%
Cost of revenue	23,164	27,548	39,520	(4,384)	(16)%	(11,972)	(30)%

Gross profit	55,554	53,931	52,928	1,623	3 %	1,003	2 %
Gross margin	71%	66%	57%	5%		9%	
Total operating expenses	76,185	92,674	124,186	(16,489)	(18)%	(31,512)	(25)%
Operating income (loss)	\$ (20,631)	\$ (38,743)	\$ (71,258)	\$ 18,112	47 %	\$ 32,515	46 %

2017 compared with 2016

Revenue decreased by \$2.8 million , or 3% . The reduction in revenue resulted from a decline of \$2.5 million in our Consumer Media segment, and a decline of \$0.5 million in our Mobile Services segment. These declines were offset by an increase of \$0.3 million in our Games segment. For further detail regarding the changes, please see the discussions of segment revenues below. Gross margin increased to 71% from 66% , driven by margin increases in Consumer Media and Mobile Services, offset by decreased margin in our games business due to increased app store fees as our mix shifts towards mobile games.

Operating expenses decreased by \$16.5 million as compared to the prior year as a result of our continuing cost reduction efforts. These efforts were the primary reason for reductions to salaries, benefits and professional services costs of \$7.7 million, facilities costs of \$4.6 million, marketing expense of \$1.8 million and lower lease exit costs of \$2.2 million. Further contributing to the decrease year over year is a benefit of \$0.5 million relating to warrants received from Napster in the first quarter of 2017, which is discussed further in Note 5 Fair Value Measurements. These decreases were offset by an increase of \$1.0 million in restructuring due to increased severance charges.

2016 compared with 2015

Revenue decreased by \$11.0 million , or 12% . The reduction in revenue resulted from a decline of \$5.6 million in our Games segment, a decline of \$3.6 million in our Consumer Media segment and a decline of \$1.8 million in our Mobile Services segment. For further detail regarding the changes, please see the discussions of segment revenues below. Gross margin increased to 66% from 57% , 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 Napster, 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.

Segment Operating Results

Consumer Media

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

	2017	2016	2015	2017-2016 Change	% Change	2016-2015 Change	% Change
Total revenue	\$ 22,569	\$ 25,051	\$ 28,613	\$ (2,482)	(10)%	\$ (3,562)	(12)%
Cost of revenue	4,460	7,074	13,257	(2,614)	(37)%	(6,183)	(47)%
Gross profit	18,109	17,977	15,356	132	1 %	2,621	17 %
Gross margin	80%	72%	54%	8%		18%	
Total operating expenses	14,530	18,399	26,526	(3,869)	(21)%	(8,127)	(31)%
Operating income (loss)	\$ 3,579	\$ (422)	\$ (11,170)	\$ 4,001	NM	\$ 10,748	96 %

2017 compared with 2016

Total Consumer Media revenue in 2017 decreased by \$2.5 million , or 10% as compared to the prior year. Of the decrease, \$1.6 million is due to continuing declines in our subscription products, as well as a decrease of \$0.6 million from licensing of our codec technologies due to timing of contract renewals.

Cost of revenue decreased by \$2.6 million , resulting in an increase in gross margin of 8 percentage points. The decrease to cost of revenue was driven by lower bandwidth and other support costs of \$1.8 million directly resulting from our ongoing efforts to optimize functionality and increase efficiencies. The decrease was also due to reduced royalties compared to the prior year of \$0.3 million and reduced third party customer service costs of \$0.3 million.

Operating expenses decreased by \$3.9 million compared to the prior year, due to lower expenses for facilities and support services of \$2.8 million as a result of our ongoing cost reduction efforts, the acceleration of depreciation expense of \$0.7 million taken in the first quarter of 2016 related to the obsolescence of e-commerce assets, and lower marketing expense of \$0.3 million.

2016 compared with 2015

Total Consumer Media revenue 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 codec technology 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.

Mobile Services

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

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2017-2016 Change</u>	<u>% Change</u>	<u>2016-2015 Change</u>	<u>% Change</u>
Total revenue	\$ 30,752	\$ 31,289	\$ 33,087	\$ (537)	(2)%	\$ (1,798)	(5)%
Cost of revenue	10,021	12,606	17,057	(2,585)	(21)%	(4,451)	(26)%
Gross profit	20,731	18,683	16,030	2,048	11 %	2,653	17 %
Gross margin	67%	60%	48%	7%		12%	
Total operating expenses	27,970	34,439	44,311	(6,469)	(19)%	(9,872)	(22)%
Operating income (loss)	\$ (7,239)	\$ (15,756)	\$ (28,281)	\$ 8,517	54 %	\$ 12,525	44 %

2017 compared with 2016

Mobile Services revenue decreased by \$0.5 million , or 2% , and was primarily driven by a decrease of \$0.6 million for system integrations for our carrier partners and \$0.6 million in our intercarrier messaging service. These decreases were offset by an increase of \$0.4 million in our ringback tones business and of \$0.4 million from our RealTimes platform.

Gross margin improved by \$2.1 million, or 7 percentage points, as compared to the prior year. The increase was due primarily to our cost reduction efforts, including reductions to salaries and infrastructure costs, as well as reduced bandwidth and customer service costs.

Operating expenses decreased by \$6.5 million due to a decrease in salaries and benefits of \$3.8 million, reduced expenses for facilities and support services of \$1.7 million and a reduction in marketing expense of \$0.6 million.

2016 compared with 2015

Mobile Services revenue decreased by \$1.8 million , or 5% , which was driven by a decrease of \$2.2 million in our ringback tones business, as well as \$0.8 million decrease from our Helix product, which we no longer sell. These decreases were offset in part by an increase of \$1.9 million from system implementations of our RealTimes platform for certain carrier partners.

Gross margin improved by \$2.7 million , or 12 percentage points, as compared to the prior year. The increase was 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.

Games

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

	2017	2016	2015	2017-2016 Change	% Change	2016-2015 Change	% Change
Total revenue	\$ 25,397	\$ 25,139	\$ 30,748	\$ 258	1 %	\$ (5,609)	(18)%
Cost of revenue	8,710	7,919	9,291	791	10 %	(1,372)	(15)%
Gross profit	16,687	17,220	21,457	(533)	(3)%	(4,237)	(20)%
Gross margin	66%	68%	70%	(2)%		(2)%	
Total operating expenses	20,401	19,644	29,086	757	4 %	(9,442)	(32)%
Operating income (loss)	\$ (3,714)	\$ (2,424)	\$ (7,629)	\$ (1,290)	(53)%	\$ 5,205	68 %

2017 compared with 2016

Games revenue increased by \$0.3 million , or 1% as compared to the prior year due to growth in our mobile games business, as the increase of \$1.9 million in our mobile games revenues was offset by a decrease of \$1.6 million in our other games revenues.

Cost of revenue increased by \$0.8 million , or 10% , as compared to the prior year, due to an increase of \$0.6 million from increased royalty fees paid to developers, as well as an increase of \$0.6 million in app store fees related to our mobile revenue growth in the casual games business. These increases were offset by lower facilities and support service costs as compared to the prior year.

Operating expenses increased by \$0.8 million , or 4% as compared to the prior-year period, due to increased salaries, benefits and professional services costs of \$1.2 million due to our continued investment in growing our mobile games offering, as well as increased facilities charges of \$0.4 million. These increases were offset in part by lower marketing costs of \$0.9 million.

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 was 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.

Corporate

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

	2017	2016	2015	2017-2016 Change	% Change	2016-2015 Change	% Change
Cost of revenue	\$ (27)	\$ (51)	\$ (85)	\$ 24	(47)%	\$ 34	(40)%
Total operating expenses	13,284	20,192	24,263	(6,908)	(34)%	(4,071)	(17)%
Operating income (loss)	\$ (13,257)	\$ (20,141)	\$ (24,178)	\$ 6,884	34 %	\$ 4,037	17 %

2017 compared with 2016

Operating expenses decreased by \$6.9 million , or 34% . The decrease was primarily due to a \$4.6 million reduction in salary, benefit and professional service expenses, a reduction of \$2.2 million in lease exit and related charges, as well as a benefit of \$0.5 million relating to the warrant received from Napster in the first quarter of 2017, which is discussed further in Note 5 Fair Value Measurements 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 by an increase of \$1.0 million relating to increased restructuring charges due to increased severance cost as compared to the prior-year period.

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 Napster 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.

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):

	2017	2016	2015	2017-2016 Change	% Change	2016-2015 Change	% Change
Research and development	\$ 29,710	\$ 29,923	\$ 43,626	\$ (213)	(1)%	\$ (13,703)	(31)%
Sales and marketing	22,953	31,608	48,231	(8,655)	(27)%	(16,623)	(34)%
General and administrative	20,996	27,415	24,549	(6,419)	(23)%	2,866	12 %
Restructuring and other charges	2,526	1,489	5,279	1,037	70 %	(3,790)	(72)%
Lease exit and related charges	—	2,239	2,501	(2,239)	(100)%	(262)	(10)%
Total consolidated operating expenses	<u>\$ 76,185</u>	<u>\$ 92,674</u>	<u>\$ 124,186</u>	<u>\$ (16,489)</u>	(18)%	<u>\$ (31,512)</u>	(25)%

Research and development expenses decreased by \$0.2 million , or 1% , in the year ended 2017 as compared to 2016. The decrease was primarily due to lower expenses for facilities and support services of \$1.0 million as a result of our ongoing cost reduction efforts. The decrease was also due to the acceleration of depreciation expense of \$0.7 million taken in the first quarter of 2016. These decreases were offset in part by an increase of \$1.3 million in salaries, benefits and professional services expense due to increased efforts towards our growth initiatives.

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.

Sales and marketing expenses decreased by \$8.7 million , or 27% , in the year ended 2017 , compared with 2016 . The decrease was due to reductions of \$5.7 million in salaries, benefits and professional services fees, a \$1.9 million decrease in marketing expenses, as well as decreased facilities and support services costs of \$1.1 million.

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 costs.

General and administrative expenses decreased by \$6.4 million , or 23% , in the year ended 2017 compared with 2016 . The decrease was primarily due to a reduction of \$3.4 million in salaries, benefits and professional services fees, a decrease of \$1.8 million related to reduced facilities and support services costs, as well as the first quarter 2017 benefit of \$0.5 million relating to warrants we received from Napster, which are discussed further in Note 5 Fair Value Measurements. Also contributing to the decrease was a benefit of \$0.4 million in the first quarter of 2017 related to the release of previously accrued taxes.

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 were 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 Napster 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.

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 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):

	2017	2016	2015	2017-2016 Change	% Change	2016-2015 Change	% Change
Interest income, net	\$ 436	\$ 449	\$ 680	\$ (13)	(3)%	\$ (231)	(34)%
Gain (loss) on investments, net	4,500	8,473	(159)	(3,973)	(47)%	8,632	NM
Equity in net loss of Napster	(3,991)	(6,533)	(14,521)	2,542	(39)%	7,988	(55)%
Other income (expense), net	(506)	(643)	506	137	(21)%	(1,149)	(227)%
Total other income (expense), net	\$ 439	\$ 1,746	\$ (13,494)	\$ (1,307)	75 %	\$ 15,240	113 %

The 2017 Gain (loss) on investment, net, was due to the collection and recognition of the second and final anniversary payment of \$4.5 million from our 2015 sale of the Slingo and social casino business, which included an agreed-to additional \$0.5 million as a result of the extension of the second anniversary payment from August to December.

The 2016 Gain (loss) on investments, net, 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, a 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.

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

Income Taxes

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent; (2) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (4) requiring a current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations; (5) eliminating the corporate alternative minimum tax (AMT) and changing how existing AMT credits can be realized; (6) creating the base erosion anti-abuse tax (BEAT), a new minimum tax; (7) creating a new limitation on deductible interest expense; and (8) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017.

Based on currently available information we have estimated and accrued a discrete tax benefit of \$3.6 million as a result of the Tax Act in the period ending December 31, 2017. This tax benefit primarily relates to the repeal of corporate AMT which allows AMT credit carryforwards to be refundable beginning in 2018.

For various reasons that are discussed below, we have not completed our final accounting for the income tax effects of certain elements of the Tax Act. If we were able to make reasonable estimates of the effects of elements for which our analysis is not yet complete, we recorded provisional adjustments. If we were not yet able to make reasonable estimates of the impact of certain elements, we have not recorded any adjustments related to those elements and have continued accounting for them in accordance with GAAP on the basis of the tax laws in effect before the Tax Act.

- The Tax Act reduces the corporate tax rate to 21 percent, effective January 1, 2018. Consequently, we have recorded a decrease related to deferred tax assets and liabilities, with a corresponding adjustment to the valuation allowance. Our estimate of the impact of the corporate tax rate change was not material and is not expected to change materially from our provisional adjustments.
- The Tax Act repeals corporate AMT for tax years beginning January 1, 2018, and provides that existing AMT credit carryovers are refundable beginning in 2018. The Company has approximately \$3.6 million of AMT

credit carryovers that are expected to be fully refunded by 2022. As there was a valuation allowance against the Company's AMT credit deferred tax asset, the repeal of corporate AMT resulted in an income tax benefit for the year ended December 31, 2017. The impact of the repeal of corporate AMT is not expected to change materially from our provisional adjustments.

- The Tax Act provides for a one-time deemed repatriation transition tax on previously untaxed accumulated and current earnings and profits (E&P) of certain foreign subsidiaries. To determine the amount of tax, the Company must determine the amount of post-1986 E&P of relevant subsidiaries. We are able to make a reasonable estimate of the transition tax, which is expected to be zero. However, we are continuing to gather additional information to precisely compute the amount of transition tax, if any.
- The Tax Act creates a new requirement that certain income (i.e. GILTI) earned by controlled foreign corporations (CFCs) must be included currently in the gross income of the CFCs' U.S. shareholder. GILTI is the excess of the shareholder's "net CFC tested income" over the net deemed tangible income return, which is currently defined as the excess of (1) 10 percent of the aggregate of the U.S. shareholder's pro rata share of the qualified business asset investment of each CFC with respect to which it is a U.S. shareholder over (2) the amount of certain interest expense taken into account in the determination of net CFC-tested income. Under GAAP, we are allowed to make an accounting policy choice of either (1) treating taxes due on future U.S. inclusions in taxable income related to GILTI as a current-period expense when incurred ("the period cost method") or (2) factoring such amounts into the Company's measurement of its deferred taxes ("the deferred method"). We have selected the period cost method. We are able to make a reasonable estimate of the GILTI inclusion, which is expected to be zero. However, because of the complexity of the new GILTI tax rules, we are continuing to evaluate this provision of the Tax Act and its application under GAAP.

The ultimate impact of the Tax Act may differ from these estimates, possibly materially, due to, among other things, changes in interpretations and assumptions made by the Company, as well as additional regulatory and accounting guidance that may be issued.

During the years ended December 31, 2017, 2016, and 2015, we recognized income tax benefit of \$2.8 million, income tax expense of \$0.8 million, and income tax benefit of \$1.3 million, respectively, related to U.S. and foreign income taxes.

The income tax benefit for the year ended December 31, 2017 was largely the result of a \$3.6 million income tax benefit related to the repeal of corporate AMT under the Tax Act, offset by withholding taxes and income taxes in foreign jurisdictions. 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.

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 \$137.1 million for our deferred tax assets due to uncertainty regarding their realization as of December 31, 2017. The net decrease in the valuation allowance since December 31, 2016 of \$39.2 million was the result of a decrease in current year deferred tax assets, which was primarily related to the corporate tax rate reduction under the Tax Act, 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, 2017, 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, 2017 and 2016, we had \$0.4 million and \$0.5 million of unrecognized tax benefits, respectively. The decrease in unrecognized tax benefits is due to federal research and development tax credit carryforward risks. As of December 31, 2017, 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.

Liquidity and Capital Resources

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

	December 31,	
	2017	2016
Working capital	\$ 55,157	\$ 66,304
Cash, cash equivalents, and short-term investments	59,975	77,052
Restricted cash and investments	2,400	2,700

The decrease in 2017 working capital as compared to December 31, 2016, which includes cash, cash equivalents, and short term investments, was primarily due to our ongoing negative cash flow used in our operations of \$21.4 million .

The following summarizes cash flow activity (in thousands):

	Years Ended December 31,		
	2017	2016	2015
Cash provided by (used in) operating activities	\$ (21,350)	\$ (24,328)	\$ (68,982)
Cash provided by (used in) investing activities	37,118	11,552	15,728
Cash provided by (used in) financing activities	(117)	(345)	341

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 \$3.0 million less in 2017 as compared to 2016. The decrease in cash used in operating activities was primarily due to a lower operating loss in 2017 as compared to 2016, driven mainly by our ongoing cost reduction efforts, as previously discussed. The effect of the reduced operating loss was offset in part by the net increase in operating assets and liabilities during 2017 as compared to 2016. In the current year, we used cash of \$7.1 million to fund the net change in operating assets and liabilities, while in 2016 the net change in operating assets and liabilities used \$1.2 million.

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 net reduction in operating assets and liabilities during 2016 compared to 2015. In 2016, we used cash of \$1.2 million to fund the net change in operating assets and liabilities while in 2015 the net change in operating assets and liabilities reduced our operation cash flow by \$16.5 million.

For the year ended December 31, 2017 , cash provided by investing activities of \$37.1 million was due to sales and maturities, net of purchases, of short-term investments totaling \$34.6 million , and cash proceeds from the 2015 sale of our Slingo and social casino games business of \$4.5 million . These proceeds were offset in part by the advance paid to Napster of \$1.5 million and purchases of equipment, software and leasehold improvements of \$0.7 million .

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 2015 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 Napster 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.

Financing activities for the year ended December 31, 2017 used cash totaling \$0.1 million which was from \$0.4 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 \$0.2 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.

While we currently have no planned significant capital expenditures for 2018 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.

If Napster continues to incur losses, if it otherwise experiences a significant decline in its business or financial condition, or if we provide financial support to or increase our investment in Napster, we could incur further losses on our investment, which could have an adverse effect on our financial condition, liquidity, and results of operations. For further information on Napster, please refer to Note 4. Napster Joint Venture .

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 three functional currencies: the U.S. dollar, the euro, and the Chinese yuan. 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, 2017 , approximately \$19.1 million of the \$60.0 million of cash, cash equivalents, and short-term investments was held by our foreign subsidiaries. While the Tax Act generally allows future repatriation of foreign funds without incurring additional U.S. taxes, certain funds may still be subject to foreign taxes. If these funds are needed for our operations in the U.S., we may be required to accrue and pay additional 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. 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, 2017 , we have not provided foreign taxes on approximately \$4.9 million of undistributed earnings of our foreign subsidiaries, since such earnings are considered permanently reinvested outside the U.S.

Contractual Obligations

Please refer to Note 17. 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, 2017 we had \$0.4 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 18. 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.

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.

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. Napster 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, 2017, \$19.1 million of the \$60.0 million of cash, cash equivalents, and short-term investments was held by our foreign subsidiaries.

As of December 31, 2017, we have not provided foreign taxes on approximately \$4.9 million of undistributed earnings of our foreign subsidiaries, since such earnings are considered permanently reinvested outside the U.S. As part of the transition tax under the Tax Cuts and Jobs Act the Company can now distribute, tax-free, earnings from our foreign subsidiaries to the U.S. However, for certain earnings, foreign taxes may be imposed upon distribution. As such, the Company asserts that the undistributed earnings of its foreign subsidiaries will continue to be permanently reinvested in jurisdictions where foreign taxes would be assessed upon distribution to the U.S. It is not practicable to determine the foreign tax liability or benefit on such earnings due to the timing of such future distributions 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 foreign 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, 2017. Based on our cash, cash equivalents, short-term investments, and restricted cash equivalents as of December 31, 2017, 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, 2017, 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 and expenses incurred in currencies other than the U.S.

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. A substantial portion of our foreign currency denominated cash is held in euros. A hypothetical 10% increase or decrease in the euro relative to the U.S. dollar as of December 31, 2017 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, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 51,196	\$ 33,721
Short-term investments	8,779	43,331
Trade accounts receivable, net of allowances	12,689	7,956
Deferred costs, current portion	426	760
Prepaid expenses and other current assets	3,715	4,910
Current assets of discontinued operations	17,456	14,206
Total current assets	94,261	104,884
Equipment and software	46,417	46,231
Leasehold improvements	3,536	3,317
Total equipment, software, and leasehold improvements	49,953	49,548
Less accumulated depreciation and amortization	46,093	44,294
Net equipment, software, and leasehold improvements	3,860	5,254
Restricted cash equivalents and investments	2,400	2,700
Other assets	5,588	1,742
Deferred costs, non-current portion	955	1,246
Deferred tax assets, net	1,047	816
Other intangible assets, net	325	938
Goodwill	13,060	12,857
Total assets	\$ 121,496	\$ 130,437
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 3,785	\$ 4,727
Accrued and other current liabilities	12,365	14,382
Commitment to Napster	2,750	1,500
Deferred revenue, current portion	3,097	3,430
Current liabilities of discontinued operations	17,107	14,541
Total current liabilities	39,104	38,580
Deferred revenue, non-current portion	443	240
Deferred rent	982	748
Deferred tax liabilities	19	87
Other long-term liabilities	1,775	2,201
Total liabilities	42,323	41,856
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 37,341 shares in 2017 and 37,501 shares in 2016	37	37
Additional paid-in capital	638,727	633,928
Accumulated other comprehensive loss	(59,547)	(61,645)
Retained deficit	(500,044)	(483,739)
Total shareholders' equity	79,173	88,581
Total liabilities and shareholders' equity	\$ 121,496	\$ 130,437

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,		
	2017	2016	2015
Net revenue (A)	\$ 78,718	\$ 81,479	\$ 92,448
Cost of revenue (B)	23,164	27,548	39,520
Gross profit	55,554	53,931	52,928
Operating expenses:			
Research and development	29,710	29,923	43,626
Sales and marketing	22,953	31,608	48,231
General and administrative	20,996	27,415	24,549
Restructuring and other charges	2,526	1,489	5,279
Lease exit and related charges	—	2,239	2,501
Total operating expenses	76,185	92,674	124,186
Operating income (loss) from continuing operations	(20,631)	(38,743)	(71,258)
Other income (expenses):			
Interest income, net	436	449	680
Gain (loss) on sale of equity and other investments, net	4,500	8,473	(159)
Equity in net loss of Napster investment	(3,991)	(6,533)	(14,521)
Other income (expense), net	(506)	(643)	506
Total other income (expenses), net	439	1,746	(13,494)
Income (loss) from continuing operations before income taxes	(20,192)	(36,997)	(84,752)
Income tax expense (benefit)	(2,778)	776	(1,290)
Net income (loss) from continuing operations	(17,414)	(37,773)	(83,462)
Net income (loss) from discontinued operations, net of tax	1,109	1,223	1,615
Net income (loss)	\$ (16,305)	\$ (36,550)	\$ (81,847)
Net income (loss) per share - Basic:			
Continuing operations	(0.47)	(1.02)	(2.31)
Discontinued operations	0.03	0.03	0.05
Net income (loss) per share - Basic	\$ (0.44)	\$ (0.99)	\$ (2.26)
Net income (loss) per share - Diluted:			
Continuing operations	(0.47)	(1.02)	(2.31)
Discontinued operations	0.03	0.03	0.05
Net income (loss) per share - Diluted	\$ (0.44)	\$ (0.99)	\$ (2.26)
Shares used to compute basic net income (loss) per share	37,163	36,781	36,165
Shares used to compute diluted net income (loss) per share	37,163	36,781	36,165
Comprehensive income (loss):			
Unrealized investment holding gains (losses), net of reclassification adjustments	\$ 8	\$ (1,303)	\$ (955)
Foreign currency translation adjustments, net of reclassification adjustments	2,090	(862)	(3,273)
Total other comprehensive income (loss)	2,098	(2,165)	(4,228)
Net income (loss)	(16,305)	(36,550)	(81,847)
Comprehensive income (loss)	\$ (14,207)	\$ (38,715)	\$ (86,075)
(A) Components of net revenue:			
License fees	\$ 28,919	\$ 27,846	\$ 28,422
Service revenue	49,799	53,633	64,026
	\$ 78,718	\$ 81,479	\$ 92,448
(B) Components of cost of revenue:			
License fees	\$ 6,663	\$ 6,062	\$ 6,381
Service revenue	16,501	21,486	33,139
	\$ 23,164	\$ 27,548	\$ 39,520

See accompanying notes to consolidated financial statements.

REALNETWORKS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years Ended December 31,		
	2017	2016	2015
Cash flows from operating activities:			
Net income (loss)	\$ (16,305)	\$ (36,550)	\$ (81,847)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	2,936	7,057	10,410
Stock-based compensation	3,675	5,424	4,698
Equity in net loss of Napster	3,991	6,533	14,521
Lease exit and related charges	—	2,239	2,501
Deferred income taxes, net	(3,871)	130	(1,558)
Loss (gain) on investments, net	(4,500)	(8,473)	159
Realized translation loss (gain)	—	272	(264)
Fair value of warrants granted in 2015 and 2017, net of subsequent mark to market adjustments in 2017, 2016 and 2015	(216)	280	(1,053)
Net change in certain operating assets and liabilities:			
Trade accounts receivable	(5,845)	(129)	(8,236)
Deferred costs, prepaid expenses and other assets	2,146	964	2,606
Accounts payable	(599)	1,571	(465)
Accrued and other liabilities	(2,762)	(3,646)	(10,454)
Net cash provided by (used in) operating activities	<u>(21,350)</u>	<u>(24,328)</u>	<u>(68,982)</u>
Cash flows from investing activities:			
Purchases of equipment, software, and leasehold improvements	(734)	(2,438)	(1,319)
Proceeds from sale of equity and other investments	—	4,967	459
Purchases of short-term investments	(13,905)	(75,766)	(72,136)
Proceeds from sales and maturities of short-term investments	48,457	84,249	78,775
Decrease in restricted cash equivalents and investments	300	190	110
Acquisitions	—	(150)	(161)
Advance to Napster	(1,500)	(3,500)	(5,000)
Repayment from Napster	—	—	5,000
Proceeds from the sale of Slingo and social casino business	4,500	4,000	10,000
Net cash provided by (used in) investing activities	<u>37,118</u>	<u>11,552</u>	<u>15,728</u>
Cash flows from financing activities:			
Proceeds from issuance of common stock (stock options and stock purchase plan)	239	535	426
Tax payments from shares withheld upon vesting of restricted stock	(356)	(880)	(85)
Net cash provided by (used in) financing activities	<u>(117)</u>	<u>(345)</u>	<u>341</u>
Effect of exchange rate changes on cash and cash equivalents	1,824	(473)	(3,025)
Net increase (decrease) in cash and cash equivalents	<u>17,475</u>	<u>(13,594)</u>	<u>(55,938)</u>
Cash and cash equivalents, beginning of year	33,721	47,315	103,253
Cash and cash equivalents, end of year	<u>\$ 51,196</u>	<u>\$ 33,721</u>	<u>\$ 47,315</u>

REALNETWORKS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS - Continued
(In thousands)

Supplemental disclosure of cash flow information:

Cash received from income tax refunds	\$	420	\$	534	\$	1,102
Cash paid for income taxes	\$	1,244	\$	2,072	\$	1,491
Non-cash investing activities:						
Increase (decrease) in accrued purchases of equipment, software, and leasehold improvements	\$	(86)	\$	26	\$	(150)
Acquisition of intangible assets	\$	—	\$	—	\$	102

See accompanying notes to consolidated financial statements.

REALNETWORKS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Deficit)	Total Shareholders' Equity
	Shares	Amount				
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 Napster 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 Napster 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
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	(160)	—	(117)	—	—	(117)
Share of Napster equity transactions	—	—	1,241	—	—	1,241
Stock-based compensation	—	—	3,675	—	—	3,675
Other comprehensive income (loss)	—	—	—	2,098	—	2,098
Net income (loss)	—	—	—	—	(16,305)	(16,305)
Balances, December 31, 2017	37,341	\$ 37	\$ 638,727	\$ (59,547)	\$ (500,044)	\$ 79,173

See accompanying notes to consolidated financial statements.

REALNETWORKS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
Years ended December 31, 2017, 2016 and 2015

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, 2017 (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, 2017 are not necessarily indicative of the results that may be expected for any subsequent periods.

On December 31, 2017, our contract with LOEN Entertainment, Co, Ltd. (LOEN) for our music on demand services expired without renewal. Accordingly, we have reported the operating results of this business as discontinued operations for all periods presented. The assets and liabilities of the music on demand business at December 31, 2017 and 2016 have been reported as assets and liabilities of discontinued operations in the Consolidated Balance Sheet. Refer to Note 16 Discontinued Operations. Unless otherwise noted, discussion within these notes to the consolidated financial statements relates to continuing operations.

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 and Short-Term Investments We consider all short-term investments with a remaining contractual maturity at date of purchase of three months or less to be cash equivalents.

Other short-term 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 short-term investments are included in other income (expense), net. Realized and unrealized gains and losses on short-term investments 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, 2017, 2016, and 2015 was \$2.3 million, \$6.0 million and \$8.1 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, Napster 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.

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

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 \$4.5 million in 2017, \$6.1 million in 2016 and \$16.5 million in 2015.

Foreign Currency. The functional currency of the Company's foreign subsidiaries is generally 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 Accumulated Other Comprehensive Income (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.

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 grant date of the award. 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 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.

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, where the cumulative effect of applying the standard would be recognized at the date of initial application. We will adopt the requirements of the new standard effective January 1, 2018, and will use the modified retrospective transition method with the cumulative effect to the opening balance of retained earnings recognized as of the date of initial adoption.

Under the new standard, the greatest impact will be in certain areas where we will be required to estimate usage which drives the underlying revenue. Under the current guidance, we do not recognize revenues until we achieve fixed and determinable status, which would typically be at a later date. We also expect an impact related to the licensing of our RealTimes and RealPlayer products. As we transition to the new revenue standard, we will recognize the revenue predominantly at the time of delivery rather than over the contract period, which results in an acceleration of revenue. Revenue recognition for all other product lines will not be significantly impacted. The new standard will not have a cash impact and will not affect the economics of the underlying customer contracts.

Our disclosures in our notes to the Consolidated Financial Statements related to revenue recognition will be significantly expanded under the new standard, specifically around the quantitative and qualitative information about our underlying performance obligations. Our assessment of impacts resulting from the new standard is substantially complete, including the impact on our controls and differences in the timing or method of revenue recognition for our contracts. As a result of our evaluation, we have modified certain accounting policies and practices and updated certain existing controls. We also designed and implemented specific controls over our evaluation of the impact of the new standard, including our calculation of the cumulative adjustment to Retained Deficit. As a result of the new standard, based on currently executed contracts, we expect to record a cumulative adjustment increasing our Retained Deficit on January 1, 2018 of approximately \$1.0 million to \$1.5 million .

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 continue to evaluate the effect that the guidance will have on our consolidated financial statements and related disclosures. We expect that the guidance will result in a material change to our Consolidated Balance Sheet as a result of capitalizing certain of our operating leases.

In November 2016, the FASB issued new guidance on the classification and presentation of changes in restricted cash on the statement of cash flows. This guidance is effective for interim and annual reporting for us on January 1, 2018. We do not expect the adoption of this guidance to have a material qualitative impact on our statement of cash flows.

In January 2017, the FASB issued new guidance simplifying the test for goodwill impairment. The new guidance eliminates Step 2 from the goodwill impairment test, instead requiring an entity to recognize a goodwill impairment charge for the amount by which the reporting unit's carrying amount exceeds the reporting unit's fair value. This guidance is effective for interim and annual goodwill impairment tests beginning on December 15, 2019, with early adoption permitted. We will be evaluating the impact of the guidance, but do not currently expect the adoption to have a material 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

As described in our 2016 10-K, 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, \$4.0 million was paid in cash in August 2016, and the remaining \$4.0 million was paid in cash in December 2017, along with an additional \$0.5 million payment related to an agreed-to extension of this final payment, which was originally due in August 2017. We recognized the gain related to both the 2016 and 2017 payments in Gain (loss) on investments, net, on the statement of operations in 2016 and 2017. 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.

Note 4. Napster Joint Venture

As of December 31, 2017 we owned approximately 42% of the issued and outstanding stock of Rhapsody International, Inc., doing business as Napster, and account for our investment using the equity method of accounting.

Rhapsody America LLC 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

originally branded as Rhapsody. The service was re-branded in 2016 as Napster. In this Note, we refer to the business as Napster, although the legal entity in which we hold our investment is Rhapsody International, Inc.

Following certain restructuring transactions effective March 31, 2010, we began accounting for our investment 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 International, Inc., carrying a \$10.0 million preference upon certain liquidation events.

We recorded our share of losses of the Napster business of \$4.0 million, \$6.5 million, and \$14.5 million for the years ended December 31, 2017, 2016 and 2015, respectively. Because of the \$10.0 million liquidation preference on the preferred stock we hold in Napster, under the equity method of accounting we did not record any share of Napster losses that would reduce the carrying value of our investment, which is impacted by Napster equity transactions, below \$10.0 million, until Napster's book value was reduced below \$10.0 million, which occurred in the first quarter of 2015. As of December 31, 2017, the carrying value of our Napster equity investment was zero, as we did not have any further commitment to provide future support to Napster, with the exception of the guaranty discussed below. Unless we commit to provide future financial support to Napster, we do not record any further share of Napster losses that would reduce our carrying value of Napster below zero; in accordance with generally accepted accounting principles in the U.S., we currently track those suspended losses outside of our financial statements.

In December 2016, RealNetworks entered into an agreement to loan up to \$5 million to Napster for general operating purposes, as did Napster's other 42% owner, Columbus Nova. Each entity fully funded its loan, providing \$3.5 million each in December 2016 and the remaining \$1.5 million each in January 2017. These 12-month loans are subordinate to senior creditors, and bear an interest rate of 10% per annum, which accretes into the outstanding principal balance. At the time of signing the agreement we recognized previously suspended Napster losses, and, consequently, we did not record a receivable related to this loan. The parties have agreed to extend the term of these loans.

During the second quarter of 2017, Napster defaulted on its loans to senior lenders due to a breach of a financial covenant, thus causing a cross default on Napster's loan to us. In June 2017, Napster obtained forbearance agreements from the senior lenders, pursuant to which (in general terms) the lenders agreed not to exercise remedies against Napster relating to defaults existing at June 30, 2017, which was subsequently extended through November 2017. In October 2017, Napster entered into a financing agreement with a new third party lender, pursuant to which Napster would factor certain receivables in return for cash advances. Napster applied the initial cash proceeds from this arrangement to pay in full and terminate all outstanding term loans with its then-existing third party lenders and a portion of amounts outstanding under a revolving credit facility. In November 2017, Napster entered into an amendment to its revolving credit facility, which updated all effective covenants and relieved all existing defaults, thereby relieving the cross default on Napster's loan to us and its loan to Columbus Nova.

In conjunction with Napster's amendment to its revolving credit facility, both RealNetworks and Columbus Nova entered into an arrangement to guarantee up to \$2.75 million each of Napster's outstanding indebtedness on the credit facility. As a result of this guaranty, we have recognized previously suspended Napster losses up to the full \$2.75 million guaranty in the Equity in net loss of Napster investment line item in our consolidated statements of operations. As of the date of this filing, RealNetworks has not been required to pay any amounts under the guaranty, and the amount is reflected on our consolidated balance sheets as Commitment to Napster.

Summarized financial information for Napster, which represents 100% of their financial information, is as follows (in thousands):

	Year ended December 31, 2017	Year ended December 31, 2016	Year ended December 31, 2015
Net revenue	\$ 172,391	\$ 208,085	\$ 201,987
Gross profit	27,173	38,407	32,761
Net loss	(13,087)	(14,913)	(35,479)
		As of December 31, 2017	As of December 31, 2016
Current assets		\$ 43,028	\$ 55,831
Non-current assets		16,874	18,273
Current liabilities		119,826	104,906
Non-current liabilities		1,231	20,238

Note 5. Fair Value Measurements

Items Measured at Fair Value on a Recurring Basis

The following tables present information about our financial assets that have been measured at fair value on a recurring basis as of December 31, 2017 and 2016, and indicates the fair value hierarchy of the valuation inputs utilized to determine fair value (in thousands).

	Fair Value Measurements as of December 31, 2017				Amortized Cost as of December 31, 2017
	Level 1	Level 2	Level 3	Total	
Cash and cash equivalents:					
Cash	\$ 31,065	\$ —	\$ —	\$ 31,065	\$ 31,065
Money market funds	20,131	—	—	20,131	20,131
Total cash and cash equivalents	51,196	—	—	51,196	51,196
Short-term investments:					
Corporate notes and bonds	—	8,779	—	8,779	8,779
Total short-term investments	—	8,779	—	8,779	8,779
Restricted cash equivalents and investments	—	2,400	—	2,400	2,400
Warrants issued by Napster (included in Other assets)	—	—	989	989	—
Total	\$ 51,196	\$ 11,179	\$ 989	\$ 63,364	\$ 62,375

	Fair Value Measurements as of December 31, 2016				Amortized Cost as of 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 Napster (included in Other assets)	—	—	773	773	\$ —
Total	\$ 32,721	\$ 47,031	\$ 773	\$ 80,525	\$ 79,764

Restricted cash equivalents and investments as of December 31, 2017 and 2016 relate to cash pledged as collateral against letters of credit in connection with lease agreements.

Realized gains and losses on sales of short-term investment securities for 2017, 2016, and 2015 were not significant. Gross unrealized gains and gross unrealized losses on short-term investment securities as of December 31, 2017 and 2016 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, 2017 are as follows (in thousands):

	Estimated Fair Value
Within one year	\$ 8,419
Between one year and five years	360

Total short-term investments	\$ 8,779
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In February 2015, Napster issued warrants to purchase Napster common shares to both RealNetworks and Columbus Nova. The warrants were issued as compensation for past services provided by RealNetworks and Columbus Nova, and both warrants covered the same number of underlying shares, with a 10 year contractual term. 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. At December 31, 2017, due to the management change and strategic shift undertaken by Napster, we determined that a change to the expected term was necessary. As a result, we extended the expected term by 3.25 years, resulting in a total expected term for the warrant of 8.25 years. During the twelve months ended December 31, 2017 the decrease in the fair value of the warrants was approximately \$0.1 million.

In February 2017, Napster issued additional warrants to purchase Napster common shares to both RealNetworks and Columbus Nova. Consistent with the warrants issued in 2015, the 2017 warrants were issued as compensation for past services provided by RealNetworks and Columbus Nova, and both warrants covered the same number of underlying shares, with a 10 year contractual term. The exercise price of the warrants exceeded 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%, resulting in a recognized fair value of \$0.5 million in Other assets in the consolidated balance sheets, and as an expense reduction within General and administrative expense in the consolidated statements of operations. At December 31, 2017, due to the management change and strategic shift undertaken by Napster, we determined that a change to the expected term was necessary. As a result, we extended the expected term by 1 year, resulting in a total expected term for the warrant of 6 years. During the twelve months ended December 31, 2017 the decrease in fair value of the warrants was approximately \$0.2 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 2017, 2016 or 2015.

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,		
	2017	2016	2015
Balance, beginning of year	\$ 633	\$ 765	\$ 1,288
Addition (reduction) to allowance	(14)	36	(355)
Amounts written off	—	(152)	(77)
Effects of foreign currency translation	106	(16)	(91)
Balance, end of year	<u>\$ 725</u>	<u>\$ 633</u>	<u>\$ 765</u>

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

	Years ended December 31,		
	2017	2016	2015
Balance, beginning of year	\$ 169	\$ 158	\$ 354
Addition (reduction) to allowance	55	15	(186)
Amounts written off	(11)	(3)	(9)
Effects of foreign currency translation	(1)	(1)	(1)

Balance, end of year	\$ 212	\$ 169	\$ 158
Total, Allowance for Doubtful Accounts Receivable and Sales Returns	\$ 937	\$ 802	\$ 923

One customer accounted for 20% of trade accounts receivable at December 31, 2017 . Three customers comprised more than 10% of our trade accounts receivable as of December 31, 2016 , with the customers individually accounting for 25% , 16% and 12% .

One customer accounted for 10% or \$8.0 million , of consolidated revenue during the year ended December 31, 2017 , in our Mobile Services segment.

One customer accounted for 11% , or \$9.1 million , of consolidated revenue during the year ended December 31, 2016 , which is reflected in our Mobile Services segment.

No customer accounted for ten percent or more of our consolidated revenue during the year ended December 31, 2015.

Note 7. Other Intangible Assets

Other intangible assets (in thousands):

	As of December 31,					
	2017			2016		
	Gross Amount	Accumulated Amortization	Net	Gross Amount	Accumulated Amortization	Net
Amortizing intangible assets:						
Customer relationships	\$ 32,286	\$ 31,997	\$ 289	\$ 29,308	\$ 28,781	\$ 527
Developed technology	25,177	25,177	—	23,574	23,263	311
Patents, trademarks and tradenames	3,932	3,896	36	3,530	3,430	100
Service contracts	5,576	5,576	—	5,205	5,205	—
Total	\$ 66,971	\$ 66,646	\$ 325	\$ 61,617	\$ 60,679	\$ 938

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.

Amortization expense related to other intangible assets during the years ended December 31, 2017 , 2016 , and 2015 was \$0.7 million , \$1.0 million , and \$2.3 million , respectively.

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

2018	\$ 325
Total	\$ 325

No impairments of other intangible assets were recognized in 2017 , 2016 or 2015 .

Note 8. Goodwill

Changes in goodwill (in thousands):

	December 31,	
	2017	2016
Balance, beginning of year		
Goodwill	\$ 323,510	\$ 323,733

Accumulated impairment losses	(310,653)	(310,653)
	12,857	13,080
Effects of foreign currency translation	203	(223)
	203	(223)
Balance, end of year		
Goodwill	323,713	323,510
Accumulated impairment losses	(310,653)	(310,653)
	\$ 13,060	\$ 12,857

Goodwill by segment (in thousands):

	December 31,	
	2017	2016
Consumer Media	\$ 580	\$ 580
Mobile Services	2,182	1,979
Games	10,298	10,298
Total goodwill	\$ 13,060	\$ 12,857

No impairments of goodwill were recorded in 2017 , 2016 , or 2015 .

Note 9. Accrued and Other Current Liabilities

Accrued and other current liabilities (in thousands):

	December 31, 2017	December 31, 2016
Royalties and other fulfillment costs	\$ 2,965	\$ 2,629
Employee compensation, commissions and benefits	4,384	5,136
Sales, VAT and other taxes payable	1,782	2,215
Other	3,234	4,402
Total accrued and other current liabilities	\$ 12,365	\$ 14,382

Note 10. Restructuring Charges

Restructuring and other charges in 2017 , 2016 and 2015 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, 2017	\$ 2,526
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

Changes to the accrued restructuring liability (which is included in Accrued and other current liabilities) for 2017 , 2016 and 2015 , (in thousands):

	Employee Separation Costs
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 year ended December 31, 2016	1,489
Cash payments	(2,684)
Accrued liability as of December 31, 2016	209
Costs incurred and charged to expense for the period to date in 2017	2,526
Cash payments	(2,491)
Accrued liability as of December 31, 2017	\$ 244

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,		
	2017	2016	2015
Accrued loss, beginning of year	\$ 3,186	\$ 2,595	\$ 234
Additions and adjustments to the lease loss accrual, including sublease income estimate revision, and related asset write-downs	—	2,428	2,981
Less amounts paid, net of sublease income	(1,128)	(1,837)	(620)
Accrued loss, end of year	2,058	3,186	2,595
Less current portion (included in Accrued and other current liabilities)	(341)	(1,024)	(822)
Accrued loss, non-current portion (included in Other long term liabilities)	\$ 1,717	\$ 2,162	\$ 1,773

Note 12. Shareholders' Equity

Accumulated Other Comprehensive Loss

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

	Years Ended December 31,		
	2017	2016	2015
Investments			
Accumulated other comprehensive income (loss), beginning of period	\$ (6)	\$ 1,297	\$ 2,252
Unrealized gains (losses), net of tax effects of \$4, \$10, and \$0	8	1,647	(562)

Reclassification adjustments for losses (gains) included in other income (expense), net of tax effects of \$0, \$0, and \$0		—	(2,950)	(393)
Net current period other comprehensive (income) loss		8	(1,303)	(955)
Accumulated other comprehensive (income) loss balance, end of period	\$	2	\$ (6)	\$ 1,297
Foreign currency translation				
Accumulated other comprehensive loss, beginning of period	\$	(61,639)	\$ (60,777)	\$ (57,504)
Translation adjustments		2,090	(1,134)	(3,009)
Reclassification adjustments for losses (gains) included in other income (expense)		—	272	(264)
Net current period other comprehensive income		2,090	(862)	(3,273)
Accumulated other comprehensive loss balance, end of period	\$	(59,549)	\$ (61,639)	\$ (60,777)
Total accumulated other comprehensive loss, end of period	\$	(59,547)	\$ (61,645)	\$ (59,480)

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, 2017 there were 5.9 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, 2017 .

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,		
	2017	2016	2015
Total stock-based compensation expense	\$ 3,675	\$ 5,424	\$ 4,698

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 both 2017 and 2016 was stock compensation expense recorded for 2016 and 2015, respectively, incentive bonuses paid in fully vested restricted stock units which were authorized and granted in 2017 and 2016. No stock-based compensation was capitalized as part of the cost of an asset as of December 31, 2017 , 2016 , or 2015 . As of December 31, 2017 , we had \$4.0 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,		
	2017	2016	2015
Expected dividend yield	—%	—%	—%
Risk-free interest rate	1.99%	1.59%	1.47%
Expected term (years)	5.3	5.1	4.8
Volatility	36%	35%	38%

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, 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	
Granted	230	4.66	
Vested	(347)	5.64	\$ 1,957
Forfeited/Canceled	(23)	4.38	
Nonvested shares, December 31, 2017	192	\$ 4.53	

At December 31, 2017 the aggregate intrinsic value of restricted stock awards was \$0.7 million and the weighted average remaining contractual term was approximately 1 year .

Stock option activity (shares are in thousands):

	Options Outstanding		Weighted Average Grant Date Fair Value
	Number of Shares	Weighted Average Exercise Price	
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	
Options granted at common stock price	993	4.29	\$	1.51
Options exercised	(21)	3.51		
Options cancelled	(757)	6.00		
Outstanding, December 31, 2017	6,076	\$	5.47	
Exercisable, December 31, 2017	3,709	\$	6.04	
Vested and expected to vest, December 31, 2017	5,997	\$	5.49	

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

As of December 31, 2017, the weighted average remaining contractual life of the options was as follows: outstanding options 4.9 years; exercisable options 4.1 years; and vested and expected to vest options 4.9 years. As of December 31, 2017, there was no aggregate intrinsic value for our outstanding, exercisable or vested and expected to vest options.

The aggregate intrinsic value of stock options exercised in 2017, 2016 and 2015 was insignificant.

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, 49,700, 53,600 and 94,400 shares were purchased during the years ended December 31, 2017, 2016 and 2015, 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, 2017, 2016, and 2015, we matched 50% of the first three percent of participating employees' contributions, and contributed \$0.3 million, \$0.3 million, and \$0.6 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,		
	2017	2016	2015
United States operations	\$ (15,731)	\$ (34,100)	\$ (76,450)
Foreign operations	(4,461)	(2,897)	(8,302)
Income (loss) before income taxes	\$ (20,192)	\$ (36,997)	\$ (84,752)

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

	Years ended December 31,		
	2017	2016	2015
Current:			
United States federal	\$ 683	\$ 712	\$ 176
State and local	42	59	(44)
Foreign	368	(125)	136
Total current	1,093	646	268
Deferred:			
United States federal	(3,643)	3	(1,636)
State and local	2	1	1
Foreign	(230)	126	77
Total deferred	(3,871)	130	(1,558)
Total income tax expense (benefit)	\$ (2,778)	\$ 776	\$ (1,290)

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,		
	2017	2016	2015
United States federal tax expense (benefit) at statutory rate	\$ (7,067)	\$ (12,949)	\$ (29,662)
State taxes, net of United States federal tax expense (benefit)	(273)	(533)	(1,240)
Change in valuation allowance	1,133	13,148	27,821
Non-deductible stock compensation	587	144	218
Impact of non-U.S. jurisdictional tax rate difference	603	335	916
Research and development tax credit	—	(338)	(243)
Increase (reversal) of unrecognized tax benefits	—	135	(1,269)
Basis difference in investment	1,397	538	1,584
Non-U.S. withholding tax	435	452	141
Other	407	(156)	444
Total income tax expense (benefit)	\$ (2,778)	\$ 776	\$ (1,290)

Net deferred tax assets, which are recorded at December 31, 2017 using a 21% tax rate in the U.S. following the passage of the Tax Act, are comprised of the following (in thousands):

	December 31,	
	2017	2016
Deferred tax assets:		
United States federal net operating loss carryforwards	\$ 59,457	\$ 93,985
Deferred expenses	926	1,136
Research and development tax credit carryforwards	24,499	24,702
Alternative minimum tax credit carryforward	—	3,561
Net unrealized loss on investments	62	97
Accrued loss on excess office facilities	489	1,178
Stock-based compensation	2,738	4,112
State net operating loss carryforwards	13,746	11,354
Foreign net operating loss carryforwards	32,759	29,863
Deferred revenue	108	156
Equipment, software, and leasehold improvements	3,119	4,636
Intangibles	2	7
Net unrealized gains and basis differences on investments	1,188	1,874

Other	183	1,624
Gross deferred tax assets	139,276	178,285
Less valuation allowance	137,117	176,274
Gross deferred tax assets, net of valuation allowance	\$ 2,159	\$ 2,011
Deferred tax liabilities:		
Other intangible assets	\$ (62)	\$ (50)
Other	(814)	(794)
Prepaid expenses	(254)	(438)
Gross deferred tax liabilities	(1,130)	(1,282)
Net deferred tax assets (liabilities)	\$ 1,029	\$ 729

Income tax receivables were \$3.6 million and insignificant at December 31, 2017 and 2016 , respectively.

In 2017 , 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 \$39.2 million decrease and a \$2.4 million increase during the years ended December 31, 2017 and 2016 , respectively.

We maintain a valuation allowance of \$137.1 million for our deferred tax assets due to uncertainty regarding their realization as of December 31, 2017 . The net decrease in the valuation allowance since December 31, 2016 of \$39.2 million was the result of a decrease in current year deferred tax assets, which was primarily related to the reduction in corporate tax rate as a result of the Tax Act, for which the Company maintains a valuation allowance.

RealNetworks' U.S. federal net operating loss carryforwards totaled \$283.1 million and \$268.5 million at December 31, 2017 and 2016 , respectively. The increase is mainly due to the current year U.S. taxable loss. The remaining net operating loss carryforwards as of December 31, 2017 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 2037.

In 2017, we evaluated the current and future impacts of the Tax Act. The primary impact in 2017 was the elimination of the AMT credit carryforward. We have concluded on a preliminary basis, as allowed under the SEC's SAB 118, that we will not owe U.S. taxes on previously untaxed accumulated and current E&P of certain foreign subsidiaries or on global intangible low-taxed income earned by controlled foreign corporations. This preliminary conclusion is based on our history of negative E&P generated by our foreign subsidiaries.

RealNetworks' AMT credit carryforward remained at \$3.6 million from December 31, 2016 to December 31, 2017 . The Tax Act repealed the corporate AMT for tax years beginning January 1, 2018, and provides that existing AMT credit carryovers are refundable beginning in 2018. The Company's \$3.6 million of AMT credit carryovers are expected to be fully refunded by 2022. A \$3.6 million benefit has been recognized in the 2017 income tax provision as a result of this change in the U.S. tax law.

RealNetworks' U.S. federal research and development tax credit carryforward totaled \$24.5 million and \$24.7 million at December 31, 2017 and 2016 , respectively. The research and development credit carryforwards expire between 2020 and 2036.

As of December 31, 2017 and 2016 , we had \$0.4 million and \$0.5 million of unrecognized tax benefits, respectively. The decrease in unrecognized tax benefits is due to federal research and development tax credit carryforward risks. As of December 31, 2017, 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, 2017 , and 2016 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,		
	2017	2016	2015
Balance, beginning of year	\$ 493	\$ 320	\$ 3,541
Increases related to prior year tax positions	—	38	—
Decreases related to prior year tax positions	(135)	—	(33)
Settlements with taxing authorities	—	—	(3,285)
Increases related to current year tax positions	—	135	97
Balance, end of year	\$ 358	\$ 493	\$ 320

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,		
	2017	2016	2015
Net income (loss) from continuing operations	\$ (17,414)	\$ (37,773)	\$ (83,462)
Weighted average common shares outstanding used to compute basic EPS	37,163	36,781	36,165
Dilutive effect of stock based awards	—	—	—
Weighted average common shares outstanding used to compute diluted EPS	37,163	36,781	36,165
Basic EPS from continuing operations	\$ (0.47)	\$ (1.02)	\$ (2.31)
Diluted EPS from continuing operations	\$ (0.47)	\$ (1.02)	\$ (2.31)

Approximately 5.3 million, 4.8 million, and 5.7 million shares of potentially issuable shares from stock awards were excluded from the calculation of diluted EPS for the years ended December 31, 2017, 2016, and 2015, respectively, because of their antidilutive effect.

Note 16. Discontinued Operations

On December 31, 2017, our contract with our low-margin music on demand customer LOEN expired. The activity for this contract represented our only revenue source relating to music on demand services, and we did not renew the sole contract for this service, resulting in the abandonment of the related business. As the exit of the music on demand business represents a strategic shift, and the amounts were financially significant to our consolidated results, at December 31, 2017 we determined this business should be reported as a discontinued operation.

The following table summarizes the results of operations, which were recorded in our Mobile Services segment, relating to the discontinued operation (in thousands):

	2017	2016	2015
Net revenue	\$ 46,034	\$ 38,989	\$ 32,848
Cost of revenue	44,612	37,420	30,777
Gross profit	1,422	1,569	2,071
Income taxes	313	346	456
Income from discontinued operations, net of tax	\$ 1,109	\$ 1,223	\$ 1,615

The following table summarizes the carrying amounts of major classes of assets and liabilities of the discontinued operation (in thousands):

	December 31, 2017	December 31, 2016
Trade accounts receivable, net	\$ 17,456	\$ 14,206
Total current assets of discontinued operations	17,456	14,206
Accounts payable	\$ 15,836	\$ 13,498
Accrued and other current liabilities	1,271	1,043
Total current liabilities of discontinued operations	\$ 17,107	\$ 14,541

The cash flows related to the discontinued operation have not been segregated, and are included in the Consolidated Statements of Cash Flows. For all periods presented, depreciation and amortization, capital expenditures and significant operating non-cash items from the discontinued operation were not material.

Note 17. 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, 2017 are as follows (in thousands):

	Office Leases
2018	\$ 5,373
2019	5,067
2020	4,564
2021	4,379
2022	4,054
Thereafter	6,501
Total minimum payments (a)	<u>\$ 29,938</u>

(a) Minimum payments have not been reduced by minimum sublease rentals of \$10.7 million due in the future under noncancelable subleases.

Of the total office lease future minimum payments, \$2.1 million is recorded in accrued lease exit and related charges at December 31, 2017 .

Rent expense during the years ended December 31, 2017 , 2016 , and 2015 , was \$3.0 million , \$4.2 million , and \$5.8 million , respectively.

In late 2017 we entered into an arrangement whereby we may be required to guarantee up to \$2.75 million of Napster's outstanding indebtedness on their revolving credit facility. As of the date of this filing, we have not been required to pay any portion of this commitment. For additional details, refer to Note 4. Napster Joint Venture.

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 18. 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 19. Segment Information

We manage our business and report revenue and operating income (loss) in three segments: (1) Consumer Media, which includes licensing of our codec technology and our PC-based RealPlayer products, including RealPlayer Plus and related products; (2) Mobile Services, which includes our SaaS services and our integrated RealTimes ® platform which is sold to 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.

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 .

Segment results for the years ended December 31, 2017 , 2016 and 2015 were as follows (in thousands):

Consumer Media

	2017	2016	2015
Revenue	\$ 22,569	\$ 25,051	\$ 28,613
Cost of revenue	4,460	7,074	13,257
Gross profit	18,109	17,977	15,356
Operating expenses	14,530	18,399	26,526
Operating income (loss)	\$ 3,579	\$ (422)	\$ (11,170)

Mobile Services

	2017	2016	2015
Revenue	\$ 30,752	\$ 31,289	\$ 33,087
Cost of revenue	10,021	12,606	17,057
Gross profit	20,731	18,683	16,030
Operating expenses	27,970	34,439	44,311
Operating income (loss)	\$ (7,239)	\$ (15,756)	\$ (28,281)

Games

	2017	2016	2015
Revenue	\$ 25,397	\$ 25,139	\$ 30,748
Cost of revenue	8,710	7,919	9,291
Gross profit	16,687	17,220	21,457
Operating expenses	20,401	19,644	29,086
Operating income (loss)	\$ (3,714)	\$ (2,424)	\$ (7,629)

Corporate

	2017	2016	2015
Cost of revenue	\$ (27)	\$ (51)	\$ (85)
Operating expenses	13,284	20,192	24,263
Operating income (loss)	\$ (13,257)	\$ (20,141)	\$ (24,178)

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

	Years ended December 31,		
	2017	2016	2015
United States	\$ 40,832	\$ 41,505	\$ 46,893

Europe	12,973	13,700	15,166
Rest of the World	24,913	26,274	30,389
Total	\$ 78,718	\$ 81,479	\$ 92,448

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

	December 31,	
	2017	2016
United States	\$ 12,236	\$ 13,052
Europe	3,437	3,920
Rest of the World	1,572	2,077
Total long-lived assets	\$ 17,245	\$ 19,049

Note 20. Related Party Transactions

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

Note 21. Quarterly Information (Unaudited)

The following table summarizes the unaudited statement of operations for each quarter of 2017 and 2016 (in thousands, except per share data):

	Total	Dec. 31 (3)	Sept. 30 (2)	June 30	Mar. 31
2017					
Net revenue	\$ 78,718	\$ 18,865	\$ 18,557	\$ 21,605	\$ 19,691
Gross profit	55,554	13,900	13,214	15,318	13,122
Operating (loss) income	(20,631)	(4,757)	(4,459)	(3,166)	(8,249)
Net income (loss) from continuing operations	(17,414)	447	(4,532)	(3,779)	(9,550)
Net income (loss) from discontinued operations	1,109	392	198	393	126
Net income (loss)	(16,305)	839	(4,334)	(3,386)	(9,424)
Basic net income (loss) per share (1):					
Continuing operations	(0.47)	0.01	(0.12)	(0.10)	(0.26)
Discontinued operations	0.03	0.01	—	0.01	0.01
Net income (loss) per share - basic	(0.44)	0.02	(0.12)	(0.09)	(0.25)
Diluted net income (loss) per share (1):					
Continuing operations	(0.47)	0.01	(0.12)	(0.10)	(0.26)
Discontinued operations	0.03	0.01	—	0.01	0.01
Net income (loss) per share - diluted	(0.44)	0.02	(0.12)	(0.09)	(0.25)
2016					
Net revenue	\$ 81,479	\$ 20,395	\$ 21,189	\$ 20,073	\$ 19,822
Gross profit	53,931	13,804	13,954	13,422	12,751
Operating (loss) income	(38,743)	(6,660)	(8,746)	(8,251)	(15,086)
Net income (loss) from continuing operations	(37,773)	(10,203)	(3,334)	(8,826)	(15,410)
Net income (loss) from discontinued operations	1,223	227	278	479	239

Net income (loss)	(36,550)	(9,976)	(3,056)	(8,347)	(15,171)
Basic net income (loss) per share (1):					
Continuing operations	(1.02)	(0.28)	(0.09)	(0.24)	(0.42)
Discontinued operations	0.03	0.01	0.01	0.01	—
Net income (loss) per share - basic	(0.99)	(0.27)	(0.08)	(0.23)	(0.42)
Diluted net income (loss) per share (1):					
Continuing operations	(1.02)	(0.28)	(0.09)	(0.24)	(0.42)
Discontinued operations	0.03	0.01	0.01	0.01	—
Net income (loss) per share - diluted	(0.99)	(0.27)	(0.08)	(0.23)	(0.42)

- (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.
- (2) Included in third quarter 2016 net income was a \$4.0 million pretax gain related to the 2015 sale of Slingo, 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.
- (3) Included in fourth quarter 2017 net income was a \$4.5 million pretax gain related to the 2015 sale of Slingo, described in Note 3. Acquisitions and Disposals.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors
RealNetworks, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of RealNetworks, Inc. and subsidiaries (the Company) as of December 31, 2017 and 2016, 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, 2017, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2017, 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) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 27, 2018 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

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 are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 1994

Seattle, Washington
February 27, 2018

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

**The Shareholders and Board of Directors
RealNetworks, Inc.:**

Opinion on Internal Control Over Financial Reporting

We have audited RealNetworks, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2017 and 2016, 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, 2017, and the related notes (collectively, the consolidated financial statements), and our report dated February 27, 2018 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company'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. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. 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 of internal control over financial reporting 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.

Definition and Limitations of Internal Control Over Financial Reporting

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.

/s/ KPMG LLP
Seattle, Washington
February 27, 2018

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, 2017, 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, 2017. 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, 2017 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’ 2018 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, 2017 .

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’ 2018 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, 2017 .

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’ 2018 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, 2017 .

Equity Compensation Plans

As of December 31, 2017 , 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	6,268	\$ 5.47	5,901 (1)(2)
Equity compensation plans not approved by security holders	—	-	—
Total	6,268	\$ 5.47	5,901 (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.
- (2) 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 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.
- (3) The total securities in column (a) include 6,076 stock options and 192 restricted stock units and awards. The 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’ 2018 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, 2017 .

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’ 2018 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, 2017 .

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, 2017 and 2016

Consolidated Statements of Operations and Comprehensive Income (Loss) — Years Ended December 31, 2017 , 2016 , and 2015

Consolidated Statements of Cash Flows — Years Ended December 31, 2017 , 2016 , and 2015

Consolidated Statements of Shareholders' Equity — Years Ended December 31, 2017 , 2016 , and 2015

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, 2018 .

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, 2018 .

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

Exhibit Index

Exhibit No.	Exhibit Description	Incorporated by Reference			
		Form	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-K	001-37745	10.3	02/27/17
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-K	001-37745	10.6	02/27/17
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-K	001-37745	10.13	02/27/17
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

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	S-1	333-36553	10.14	09/26/97
10.19	Voting Agreement dated September 25, 1997 by and among 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 December 23, 2014 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	001-37745	10.26	11/04/16
10.28	† Offer Letter dated March 29, 2017 between RealNetworks, Inc. and Cary Baker	10-Q	001-37745	10.1	05/04/17
10.29	† Form of Amended and Restated Change in Control and Severance Agreement for Executive Officers	10-Q	000-23137	10.5	08/09/11
10.30	† Form of MBO Plan Document under the RealNetworks, Inc. 2015 Executive Compensation Program	8-K	000-23137	10.1	02/24/15
10.31	† Form of MBO Plan Document under the RealNetworks, Inc. 2016 Executive Compensation Program	8-K	000-23137	10.1	05/03/16
10.32	† Form of MBO Plan Document under the RealNetworks, Inc. 2017 Executive Compensation Program	8-K	001-37745	10.1	04/13/17
10.33	• 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	• 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	• License Agreement, dated as of January 26, 2012, by and between RealNetworks, Inc. and Intel Corporation	8-K/A	000-23137	10.1	04/11/12
21.1	* Subsidiaries of RealNetworks, Inc.				
23.1	* Consent of KPMG LLP				

Exhibit No.	Exhibit Description	Incorporated by Reference			
		Form	SEC File No.	Exhibit	Filing Date
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 Cary Baker, 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 Cary Baker, 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.				
◆	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.				

SUBSIDIARIES OF REAL NETWORKS, INC.

Name of Subsidiary	Jurisdiction of Incorporation
Atrativa Latin America Ltda.	Brazil
Beijing RealNetworks Technology Co. Ltd.	China
GameHouse Europe B.V.	The Netherlands
GameHouse Spain S.L.	Spain
Listen.com, Inc.	California
Muzicall Ltd.	United Kingdom
PT RealNetworks Indonesia	Indonesia
RealNetworks Asia Pacific Co., Ltd.	Republic of Korea
RealNetworks Australia Pty. Limited	Australia
RealNetworks Digital Music of California, Inc.	California
RealNetworks, d.o.o.	Croatia
RealNetworks GmbH	Austria
RealNetworks Hong Kong, Limited	Hong Kong
RealNetworks India Pvt. Ltd.	India
RealNetworks K.K.	Japan
RealNetworks Ltd.	United Kingdom
RN Acquisition Corp.	Washington
RN International Holdings B.V.	The Netherlands
RN International Holdings C.V.	The Netherlands

Consent of Independent Registered Public Accounting Firm

The Board of Directors

RealNetworks, Inc.:

We consent to the incorporation by reference in the registration statements (No. 333-114088) on Form S-3 and (Nos. 333-63333, 333-128444, 333-42579, 333-147279, 333-172871, and 333-199898) on Form S-8 of RealNetworks, Inc. of our reports dated February 27, 2018, with respect to the consolidated balance sheets of RealNetworks, Inc. as of December 31, 2017 and 2016, 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, 2017, and the related notes (collectively, the "(consolidated) financial statements"), and the effectiveness of internal control over financial reporting as of December 31, 2017, which reports appear in the December 31, 2017 annual report on Form 10-K of RealNetworks, Inc..

(signed) KPMG LLP

Seattle, Washington

February 27, 2018

**CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Robert Glaser, certify that:

1. I have reviewed this report on Form 10-K of RealNetworks, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2018

/s/ ROBERT GLASER

Robert Glaser

Title: Chairman and Chief Executive Officer

(Principal Executive Officer)

**CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Cary Baker, certify that:

1. I have reviewed this report on Form 10-K of RealNetworks, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2018

/s/ CARY BAKER

Cary Baker

Title: Senior Vice President, Chief Financial Officer and Treasurer (Principal
Financial and Accounting Officer)

**CERTIFICATION PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002
(18 U.S.C. SECTION 1350)**

I, Cary Baker, Chief Financial Officer and Treasurer of RealNetworks, Inc., certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of RealNetworks, Inc. on Form 10-K for the fiscal year ended December 31, 2017 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of RealNetworks, Inc.

Date: February 27, 2018

By: /s/ CARY BAKER

Name: Cary Baker

Title: Senior Vice President, Chief Financial Officer and Treasurer
(Principal Financial and Accounting Officer)

A signed original of this written statement required by Section 906 has been provided to RealNetworks, Inc. and will be retained by RealNetworks, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.