

FALCONSTOR SOFTWARE INC

Form 10-K

March 10, 2017

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2016.

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 0-23970

FALCONSTOR SOFTWARE, INC.

(Exact name of registrant as specified in its charter)

DELAWARE 77-0216135

(State or other jurisdiction of (I.R.S. Employer  
incorporation or organization) Identification No.)

2 Huntington Quadrangle, Suite 2S01 11747  
Melville, New York (Zip code)

(Address of principal executive offices)

Registrant's telephone number, including area code: 631-777-5188

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

Title of Each Class	Name of Each Exchange on Which the Securities are Registered
Common Stock, \$.001 par value	NASDAQ Global Market

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 ✓

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of 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. ☐

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Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definition of “large accelerated filer”, “accelerated filer”, and “smaller reporting company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer   
Non-accelerated filer  Smaller Reporting Company

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

The aggregate market value of Common Stock held by non-affiliates of the Registrant as of June 30, 2016 was \$37,522,708 which value, solely for the purposes of this calculation excludes shares held by Registrant's officers and directors. Such exclusion should not be deemed a determination by Registrant that all such individuals are, in fact, affiliates of the Registrant. The number of shares of Common Stock issued and outstanding as of February 28, 2017 was 59,644,134 and 44,116,064, respectively.

Documents Incorporated by Reference:

The information required by Part III of Form 10-K will be incorporated by reference to certain portions of a definitive proxy statement which is expected to be filed by the Company pursuant to Regulation 14A within 120 days after the close of its fiscal year.

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FALCONSTOR SOFTWARE, INC. AND SUBSIDIARIES

2016 ANNUAL REPORT ON FORM 10-K

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## PART I

### Item 1. Business

#### OVERVIEW

FalconStor Software, Inc. ("FalconStor", the "Company", "we", "our" or "us") is a leading Software-Defined Storage ("SDS") company offering a converged data services software platform that is hardware agnostic which was founded in 2000. As a global company, our vision is to deliver enterprise class, software-defined, intelligent data services combined with predictive analytics across any primary or secondary storage hardware; in the cloud or on premise. The Company's mission is to help IT organizations realize more economic value out of existing environments and any future storage investments while reducing complexity, maximizing flexibility and improving operational efficiency. Our award-winning solutions are available and supported worldwide by OEMs as well as leading service providers, system integrators, resellers and FalconStor.

FalconStor was incorporated in Delaware as Network Peripherals, Inc., in 1994. Pursuant to a merger with FalconStor Inc., in 2001, the former business of Network Peripherals, Inc., was discontinued, and the newly re-named FalconStor Software, Inc., continued the storage software business started in 2000 by FalconStor, Inc. FalconStor's headquarters are located at 2 Huntington Quadrangle, Suite 2S01, Melville, NY 11747. The Company also maintains offices throughout Europe and Asia Pacific.

#### FREESTOR

FreeStor® is the strategic flagship product for FalconStor, leading the industry with what we believe to be the most complete, software-defined, hardware agnostic platform to deliver a truly heterogeneous data services approach. While virtualization has streamlined some common tasks associated with managing data resources, the introduction of a virtualization layer can introduce a whole new level of complexity to the protection, recovery and integration of both virtual and non-virtualized resources. FreeStor helps IT organizations minimize and eliminate that complexity with the delivery of four specific use cases which include; migration, continuity, protection/recovery and optimization for any storage environment through a single management interface with "Edge-to-Core" analytics - all for a single price based on primary instance capacity across arrays, servers, hypervisors, data centers, and the cloud.

FalconStor accomplishes this through its Intelligent Abstraction® core, which provides a scalable storage hypervisor, coupled with a data services engine and automation, to ease the provisioning and management of storage resources with the right level of performance, protection and recovery. The Intelligent Abstraction core optimizes storage resources regardless of type, connectivity, brand or speed, into a storage resource pool that can be provisioned to physical or virtual applications, along with common, unified data services across that pool. FreeStor is designed to eliminate the complexity and incompatibilities of point solutions along with the time involved in managing disparate underlying storage found in today's enterprises.

#### PRODUCT STRATEGY

FalconStor's stated strategy is to focus on the development of the integrated FreeStor platform going forward. However, FalconStor's point solutions are the building blocks which FreeStor technology and our Intelligent Abstraction core IO engine were originated. Our existing point products will continue to be available. During November 2016, we released the latest versions of our point products, version 9.0. We continue to support our legacy customers and look to convert them to FreeStor, but this will most likely be the last major release for the legacy products with minor releases still planned as well as compatibility with infrastructure updates. Our Business Continuity and Disaster Recovery products, Network Storage Server (NSS) and Continuous Data Protector (CDP), feature RecoverTrac which we believe is the industry's most automated and complete recovery tool. These solutions

set themselves apart by supporting physical, virtual, hybrid and private cloud environments. We believe a key differentiator is our ability to allow users to manage and to convert across these environments dynamically, giving them the freedom to optimize their IT infrastructure and to eliminate costly vendor and form-factor lock-in. Our Optimized Backup and Deduplication (OBD) product merges our industry-leading Virtual Tape Library (VTL) and File-interface Deduplication System (FDS) solutions to help customers optimize the performance of their existing backup infrastructure, while reducing the cost of underlying storage and data replication. From Fortune 100 enterprises to medium-size businesses, customers across a vast range of industries worldwide have implemented FalconStor solutions in their production IT environments. Whether it is to meet their recovery time objectives (RTO) or their recovery point objectives (RPO), FalconStor helps end users manage their storage infrastructures with minimal total cost of ownership (TCO) and with optimal return on investment (ROI).

FalconStor's products have been certified by many industry leaders which are available on our website at: [www.falconstor.com/certification-matrix](http://www.falconstor.com/certification-matrix).

## Deployment options

FalconStor sells its solutions primarily as standalone software, or as virtual appliances. An option to deliver the software pre-installed on FalconStor-supplied hardware appliances is also available upon request.

## Solutions

FalconStor is focused on offering solutions in four specific use-cases:

- Data Migration
- Continuous Availability
- Data Protection + Recovery
- Optimization

Our core products enable these solutions as follows:

FreeStor® - An integrated software-defined platform that provides, migration, continuity, protection/recovery and optimization for any storage environment through a single management interface which contains analytics from "Edge-to-Core" along with a subscription-based licensing model which is primary instance only.

FalconStor® NSS - Migration, storage virtualization, provisioning and management.

FalconStor® CDP - Bootable snapshots, zero-impact backup, both local and remote disaster recovery.

FalconStor® OBD - Optimized backup, archive to tape, block-based deduplication, file-based deduplication and storage capacity optimization

FalconStor solutions are scalable in order to address the needs of medium businesses, large organizations, and global enterprises. Our solutions offer high availability (HA) through RAID, synchronous and asynchronous mirroring, HA failover, and clustering technologies (both 2-NODE and 4-NODE) for those customers requiring the highest levels of IT resiliency.

## FreeStor

FreeStor is an industry leading software-defined, hardware agnostic platform that delivers a heterogeneous data services approach. FreeStor helps IT organizations minimize and eliminate the complexity with the delivery of migration, continuity, protection/recovery and optimization services for any storage environment through a single management interface - all for a single price based on the primary instance of capacity across arrays, servers, hypervisors, data centers, and the cloud.

This is accomplished through its Intelligent Abstraction core IO engine, which provides a scalable storage hypervisor, coupled with a data services engine and automation, to ease the provisioning and management of storage resources with the right level of performance, protection and recovery. The Intelligent Abstraction core optimizes storage resources regardless of type, connectivity, brand or speed, into a storage resource pool that can be provisioned to physical or virtual applications, along with common, unified data services across that pool. FreeStor is designed to eliminate the complexity and incompatibilities of point solutions along with the time involved in managing disparate underlying storage found in today's enterprise

## FalconStor Network Storage Server (NSS)

FalconStor NSS is a scalable, highly available solution that enables storage virtualization and business continuity in heterogeneous environments. Supporting existing third-party disk arrays, FalconStor NSS eliminates storage

boundaries and vendor lock-in, providing fast and easy data storage provisioning and migration. From a small iSCSI virtual server lab to an enterprise-class Fibre Channel SAN running Tier-1 database applications, FalconStor NSS is designed to meet all of the storage needs of any organization.

Moving data between different storage platforms can be complex, time consuming, and disruptive to business operations. FalconStor's core storage virtualization technology provides a non-disruptive and simple approach to data mobility across different SAN protocols and vendors. With FalconStor NSS, we believe it becomes a simple operation to move data from older platforms to newer ones or to introduce new storage tiers. This allows organizations to respond to evolving performance and capacity requirements.

### FalconStor Continuous Data Protector (CDP)

We believe FalconStor CDP technology reinvents the way data backup and recovery are implemented and performed. Moving beyond failure-prone once-a-day tape backup models, FalconStor CDP combines local and remote protection into a cost-effective, unified, disk-based solution that allows organizations to recover data back to the most recent transaction. Combining application-aware snapshot agents and continuous journaling functions, FalconStor CDP enables customers to recover data to any point in time. FalconStor CDP delivers instant data availability and reliable recovery, bringing business applications back on line in a matter of minutes after a failure. FalconStor CDP protects application-specific data for Microsoft, Oracle, SAP, and other business applications, ensuring high performance and stability for even the most complex business environments.

### FalconStor RecoverTrac Disaster Recovery Automation Tool

The FalconStor RecoverTrac disaster recovery automation tool is included as a standard feature of the FalconStor NSS and the FalconStor CDP solutions to automate complex, time-consuming and error-prone failover and failback operations of systems, applications, services, and entire data centers. The RecoverTrac tool streamlines the implementation, testing and execution of DR operations. It minimizes service failover time between sites and reduces DR costs by offering full recovery from physical-to-physical, virtual-to-virtual, and physical-to-virtual server infrastructures. This tool can also convert across those environments, enabling organizations to seamlessly migrate locally, remotely or to and from cloud environments.

### FalconStor Optimized Backup and Deduplication (OBD)

The FalconStor OBD solution is one of the industry's leading virtual tape solutions, and we believe it is unmatched in terms of performance and scalability. With virtual tape, backups complete faster and more reliably, with little or no change needed to the backup environment. It enhances backup operations seamlessly without changing any backup processes or policies. Sophisticated physical tape integration and data security complete the solution. Designed from the start as an enterprise-class application, FalconStor OBD can achieve sustained backup speeds of 20TB per hour per node. Up to eight nodes can combine into a single logical unit, scaling performance to a remarkable 160 TB per hour. This sustained performance allows users to solve the single biggest issue in backup: meeting the backup window. To put that in context, with our latest version 9.x product releases, existing customers can now do the same backup job in 2.8 hours compared with what previously took approximately 8 hours. Unlike our competitors who report peak speeds using multiple nodes, FalconStor notes sustained speeds on a single node and on multiple nodes to ensure customers can achieve real-world performance and do more actual work in less time.

Built-in data deduplication significantly reduces the amount of data needed to be stored on disk. Combined with the latest high-speed protocols, including 8Gb Fibre Channel (FC) and 10Gb Ethernet, we believe FalconStor OBD demonstrates the fastest sustained deduplication speeds in the industry: more than 28 terabytes per hour with inline deduplication and more than 40 terabytes per hour with post processing. Because not all data is alike, we believe FalconStor OBD is the only deduplication solution to offer flexible, deduplication options, letting the customer choose from any combination of four deduplication methods (inline, post-process, concurrent, and no deduplication) to align deduplication processes with business goals and unique requirements. By eliminating redundant backup data, the storage footprint can be reduced by as much as 95%, allowing organizations to keep weeks or even months of data on disk for fast, dependable restore without any of the reliability concerns of a tape-based restore.

## BUSINESS STRATEGY

FalconStor continues to position itself as a leader in the Software-Defined Storage market serving enterprise IT organizations and service providers worldwide. FalconStor intends to achieve this objective through the following



strategies.

#### Modernize Existing Enterprise Storage Environments While Protecting Investments

As IT organizations look to modernize existing infrastructure (either refreshing existing technology or introducing new technologies such as All Flash Arrays (AFAs) and Cloud), they are challenged by the cost, risk, and the disruption upgrades and migrations can cause. Because FreeStor abstracts the data services from the physical storage infrastructure, additional capabilities can be added to legacy hardware, eliminating the need and cost to replace that hardware. This delivers discrete value in terms of lowering capital and operational costs, reduced risk and disruption and significantly faster time to deployment. For IT organizations needing to deploy new hardware or storage paradigms such as all AFAs and Cloud, FreeStor enables the migration of data and workloads to those new platforms, versus being forced to start with a new or “greenfield” deployment required by many of the new HW vendors. FreeStor offers these organizations a path forward with an approach that minimizes or eliminates risk and disruption to business processes and workflows, while lowering both capital and operational costs.

FalconStor intends to continue to leverage the protocol-independent, unified architecture, analytics and robust open data services technology of its solution to maintain a leadership position in the enterprise storage software market. FalconStor plans to continue its leadership in this market through its deep commitment to research and development and through continued rapid technology innovation. For information on our research and development expenditures, please see “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our audited consolidated financial statements included in this Annual Report on Form 10-K.

#### Enable Service Providers

As the service provider segment continues to grow, they increasingly have a need to support heterogeneous storage environments across their own datacenters and their customer’s environments. Further, they often have different hardware and software capabilities, making it significantly challenging to offer consistent data services across these environments. We believe FreeStor offers several strategic benefits for service providers:

- Seamlessly and non-disruptively move data from the customer premise to the service provider’s hosted environment;
- Offers common data services across customer’s environments regardless of underlying hardware or technology;
- Allows for the introduction and ability to monetize additional data services they may not have previously been able to offer;
- Provides a low-cost growth opportunity due to the flexibility of FreeStor licensing, while eliminating the need to have multiple feature licenses array by array;
- Realize reduced storage management complexity and costs within their own infrastructure by eliminating silos, reducing licensing costs and optimizing hardware with FreeStor;
- Optimize storage hardware based on price/performance needs of customers; and
- Analytics provide the necessary real-time and historical information to achieve SLA's and make economic decisions.

#### Expand Software and Hardware Strategic Alliances with Industry Leaders

The Flash/SSD market should be a key opportunity for us on two fronts: targeting customers wanting to integrate new Flash/SSD technology into existing IT environments; and OEMs needing to enhance their software stack in order to offer data movement and protection services on their platform. Cloud Service Providers (CSPs) such as AWS, Azure and Aliyun also represent a growth opportunity. Our mutual customers and partners need help moving data from the customer site to their own facilities as well as a way to deliver common data services across disparate and often incompatible hardware typically found across the provider and end customer environments. We believe FalconStor is positioned to continue to take advantage of these key opportunities in the global marketplace. Our strategic relationships with Dell, DSI, Fujitsu, Hitachi Data Systems, HP, Huawei, Kaminario, X-IO and others should fuel growth across all three major geographies.

#### Expanded Existing Product Offerings

During 2016, we continued to innovate and enhance our FreeStor product to address the ever changing market dynamics to ensure that FreeStor continues to be a leader in the SDS market place. The latest enhancements were delivered in October 2016, including new primary instance only pricing, public cloud connectors (AWS, Azure, Oracle Cloud, Aliyun, Huawei), enhanced Core-to-Edge Analytics, Unified Client Management, improved secure multi-tenancy, external security (A.D. and LDAP), and numerous performance optimizations. The FreeStor Cinder Driver for OpenStack has also been approved and is now included in the OpenStack Newton distribution as well as the RedHat OpenStack 8 distribution. Enhancements delivered in April 2016, included end-to-end intelligent predictive analytics which offers insight across heterogeneous storage environments. Unlike array-based analytics, FreeStor’s new Intelligent Predictive Analytics provides real-time and historical analytics across heterogeneous storage systems to better manage capacity, performance, and availability. By combining Intelligent Abstraction with Intelligent

Predictive Analytics, users are able to take intelligent action based on real-time information to optimize and maintain their storage environment from a single pane of glass regardless of storage vendor or location.

In addition during 2016, FalconStor continued to update and enhance its existing portfolio to address the needs of customers and leverage newer technologies. Product release updates include version 9.0 of our CDP, NSS and OBD products, which are expected to be our last major release for each.

#### Market Approach

FalconStor continues to focus on enterprise customers, managed service providers, cloud service providers, as well as OEM partners. These markets offer the greatest opportunity and are best suited to realize the value of FalconStor products.

The Company continues to utilize Corporate Marketing and Regional Field Marketing teams to better address market differences. The Corporate Marketing team focuses on company branding, industry analysts, public relations, key messaging, product positioning, and sales enablement. The Field Marketing teams have been organized and funded to focus on go-to-market efforts and marketing activities, lead generation, promotions and event execution. These teams are now empowered to tailor go-to-market efforts and optimize marketing effectiveness for local markets and geographies, moving away from a “one-size-fits-all” approach.

#### Growth Drivers

As the adoption of new technologies such as All Flash Arrays and the Cloud and the move to consuming solutions as a service, the IT market continues to show growth in several key market segments. FalconStor continues to focus on and pursue these market segments to deliver software defined storage data services, shifting away from slower growing, traditional Back-up and Data Protection markets.

According to IDC\*, the 2015 worldwide storage software market experienced its first annual decline in years. A big part of this decline can be attributed to a strengthening U.S. dollar, but market demand was also impacted by core trends occurring within the broader storage and IT industry. Notwithstanding this declined spending, it is the view of IDC that many drivers and inhibitors affecting the storage software market are expected to result in increased global spending on storage software through 2020.

\* Source: IDC Worldwide Storage Software Forecast, 2016-2020

#### SALES ROUTES TO MARKET

FalconStor continues to sell products in a number of ways:

##### Direct to customers

- Through Authorized partners, Value-added resellers (VARs), solution providers, and large system integrators
- Direct to Direct Market Resellers (DMRs) and Distributors
- Direct to Managed Service Providers (MSPs) and Cloud Service Providers (CSPs)
- Direct to Original Equipment Manufacturers (OEMs)

**VAR and Distributor Relationships:** FalconStor has entered into VAR and distributor agreements to help sell our products in various geographic areas. FalconStor’s VARs and distributors market various FalconStor products and receive a discount off of the list price on products sold. FalconStor’s scalable solutions are also being deployed by MSPs and CSPs to deliver online data protection and recovery services across different vertical markets.

**Strategic Alliances:** FalconStor has agreements with strategic partners to utilize FalconStor products for use in the strategic partners’ special-purpose storage appliances.

**OEM Relationships:** OEMs collaborate with FalconStor to integrate FalconStor technology into their own product offerings or to resell FalconStor technology under their own label.

**Professional Services:** FalconStor’s Professional Services personnel are also available to assist customers and partners throughout the lifecycle of FalconStor solution deployments. The Professional Services team includes experienced Storage Architects (expert field engineers) who can assist in the assessment, planning/design, deployment, and test phases of the deployment project, and a Technical Support Group for post-deployment assistance and ongoing support.

## MARKETING

We continued our efforts to increase awareness and demand for FreeStor during 2016. According to 2016 TrendKite\* summary reports, FalconStor and FreeStor “share of voice” was 15% in 2016. This surpassed or stayed on par with others in the SDS segment. In addition, during 2016 we focused on lead generation and as a result we increased our viewer exposure on the BrightTALK webinar platform by 145% as compared to 2015. We used and expect to continue to use an outside partner for lead follow-up to accelerate the pipeline of marketing qualified leads.

\* TrendKite is an independent media coverage service to which FalconStor subscribes to capture and report on global and regional media and social coverage.

## COMPETITION

As data has become as critical an asset as capital and labor, the entrants into the data management and data protection segments continue to rise, as does the demand for services and integration with emerging technologies. Although there are several companies attempting to offer data protection for specific environments, FalconStor believes that only software-defined storage providers are capable of delivering a high level of data protection services across the data center, crossing the infrastructure boundaries between virtual, physical and hybrid environments. FalconStor holds multiple patents on key technologies that enable and optimize our snapshots, data protection, and data reduction platform. We believe that our integrated services and products based on our common storage virtualization platform - including CDP, NSS, OBD, WAN-optimized replication for remote offices and data centers, and disaster recovery automation - are unique to the industry.

Although some of FalconStor's products provide capabilities that put them in competition with products from a number of companies, FalconStor is not aware of any other software company providing the same level of data protection and recovery capabilities for both physical and virtual infrastructures in a common solution, such as FreeStor. FalconStor believes that the principle competitive factors enhancing its marketability include product features, such as scalability, high availability, price, reliability, hardware/platform neutrality, and customer service and support.

As FalconStor refines its focus on enterprise and service provider market segments, the products and services offered by its partners may compete with existing or new products and services offered by current and new entrants to the market.

FalconStor's future and existing competitors could conceivably introduce products with superior features, scalability and functionality at lower prices than FalconStor products. They could also bundle existing or new products with other more established products to compete with FalconStor. Increased competition could result in price reductions and reduced gross margins, which in turn could impact FalconStor's business. FalconStor's success will depend largely on its ability to generate market demand and awareness of its products and to enhance or develop new products and services in a timely manner.

When we sell to customers, the competitors we encounter most frequently are HP, Dell, Hitachi Data Systems, IBM, DataCore and a number of niche players. Many of these competitors have significantly greater resources than we do.

## INTELLECTUAL PROPERTY

FalconStor's success is dependent in part upon its proprietary technology. The IPStor platform forms the core of this proprietary technology. FalconStor currently has twenty-seven patents and numerous pending patent applications. The Company has multiple registered trademarks - including "FalconStor Software", "IPStor", "FreeStor" and "Intelligent Abstraction" - as well as pending trademark applications related to FalconStor and its products.

FalconStor seeks to protect its proprietary rights and other intellectual property through a combination of copyright, patents, trademark, and trade secret protection, as well as through contractual protections such as proprietary information agreements and nondisclosure agreements. The technological and creative skills of its personnel, new product developments, frequent product enhancements, and reliable product maintenance are essential to establishing and maintaining a technology leadership.

FalconStor generally enters into confidentiality or license agreements with employees, consultants, and corporate partners and generally controls access to and distribution of its software, documentation, and other proprietary information. Despite the Company's efforts to protect its proprietary rights, unauthorized parties may attempt to copy

or otherwise obtain and use FalconStor's products or technology. Monitoring unauthorized use of FalconStor's products is difficult, and there can be no assurance that the steps FalconStor has taken will prevent misappropriation of its technology, particularly in foreign countries where laws may not protect its proprietary rights as fully as do the laws of the United States.

#### MAJOR CUSTOMERS

For the years ended December 31, 2016 and 2015, we had one customer, Hitachi Data Systems, which accounted for 11% and 10% of our total revenue, respectively. The loss of this customer, or a significant reduction in revenue from this customer, could have a material adverse effect on our results of operations. In addition, for the year ended December 31, 2015 we had one customer, Violin Memory, Inc., which accounted for 23% of our total revenue. This revenue was related to our joint development agreement with Violin Memory, Inc, which was a one-time agreement.

As of December 31, 2016, Datang Telecom International Technology Co., Ltd, Hitachi Data Systems and Huawei Technologies Co., Ltd, accounted for 15%, 14% and 12% of our gross accounts receivable balance, respectively. As of December 31, 2015, Hitachi Data Systems and Datang Telecom International Technology Co., Ltd, accounted for 12% and 11% of our gross accounts receivable balance, respectively.

## EMPLOYEES

As of December 31, 2016, we had 166 full-time and part-time employees, consisting of 61 in research & development, 47 in sales & marketing, 41 in service, and 17 in general and administrative. We are not subject to any collective bargaining agreements and we believe that our employee relations are good.

## INTERNET ADDRESS AND AVAILABILITY OF FILINGS

Our internet address is [www.falconstor.com](http://www.falconstor.com). The Company makes available free of charge, on or through its Internet website, the Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Sections 13(a) or (15)(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the Securities and Exchange Commission. The Company complied with this policy for every Securities Exchange Act of 1934, as amended, report filed during the year ended December 31, 2016.

### Item 1A. Risk Factors

We are affected by risks specific to us as well as factors that affect all businesses operating in a global market. The significant factors known to us that could materially adversely affect our business, financial condition, or operating results are set forth below.

There is substantial doubt about our ability to continue as a going concern.

We have incurred significant operating losses in the previous eight years and negative cash flow from operations in five of the previous eight years. We currently have a working capital deficiency of \$10.5 million, which is inclusive of current deferred revenue of \$15.2 million, and a stockholders' deficit of \$21.7 million. During the year ended December 31, 2016, we incurred a net loss of \$11.0 million and negative cash flow from operations of \$9.4 million. Our total cash balance at December 31, 2016 is \$3.4 million, a decrease of \$10.0 million as compared to December 31, 2015. In addition to these financial metrics, as of December 31, 2016, we were not in compliance with the financial covenants of the Series A redeemable convertible preferred stock, which are mutually agreed to annually, for two consecutive quarters. This breach provides the Series A redeemable convertible preferred stockholders with the right to require us to redeem any of the Series A redeemable convertible preferred stock at the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price of our common stock as of December 31, 2016. To date, the holders of the Series A redeemable convertible preferred stock have neither exercised nor waived this right and accordingly this right may be exercised at any time. In addition, the holders of the Series A redeemable convertible preferred stock have the right to request a redemption of the Series A redeemable convertible preferred stock on or after August 5, 2017. If the holders request that the Series A redeemable convertible preferred stock be redeemed, we may not have sufficient liquidity to undertake the redemption. If we do not redeem the Series A redeemable convertible preferred stock, the holders of the Series A redeemable convertible preferred stock can pursue other remedies. Refer to Note (8) Series A Redeemable Convertible Preferred Stock to our consolidated financial statements for further discussion regarding these other remedies. Our reduced cash balance and history of losses both in and of itself, and in combination with the redemption rights of the holders of the Series A redeemable convertible preferred stock, raise substantial doubt about our ability to continue as a going concern within one year after March



10, 2017 (the date that these financial statements were issued). Accordingly, the financial statements as of December 31, 2016, included in this Annual Report on Form 10-K were prepared under the assumption that we will continue as a going concern for the next twelve months.

Our ability to continue as a going concern, including in the event of a redemption request by the holder, depends on our ability to execute our business plan, increase revenue and billings and reduce expenditures. During 2016, we continued to focus on aligning our expense structure with revenue expectations which included tighter expense controls and overall operational efficiencies which better align our current business plan on a run-rate basis. These efficiencies include among other items, stream-lined personnel related costs and global overhead costs and efficiencies realized on our redesigned go-to-market coverage models. We have reduced our worldwide headcount to 166 employees as of December 31, 2016, compared with 226 employees as of December 31, 2015. However, the decline in revenue over the last twelve months combined with the separation costs related to the headcount reductions have reduced the impact of these reductions in operating expenses, thereby not achieving the expected reduction of quarterly cash burn rate.

There is no assurance that we will be successful in generating sufficient revenue or continuing to reduce operating costs. In addition, to the extent that we continue to incur losses, we may need to seek additional financing and there can be no assurance that we will be able to obtain financing or that such financing will be on favorable terms. Any such financing could be dilutive to our shareholders. Failure to generate sufficient revenue, billings, control or reduce expenditures and/or the inability to obtain financing will result in an inability of us to continue as a going concern.

We defaulted under a covenant in the Stock Purchase Agreement covering our Series A redeemable convertible preferred stock.

As of December 31, 2016, we were not in compliance with the financial covenants related to our Series A redeemable convertible preferred stock because we did not reach the agreed upon targets for two consecutive quarters. Under the agreement, this default would allow the Series A redeemable convertible preferred stockholders to require us to redeem any of the Series A redeemable convertible preferred stock for the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price as of December 31, 2016. As a result, the holders of the Series A redeemable convertible preferred stock has the right to demand redemption of any of the outstanding Series A redeemable convertible preferred stock they hold. To date, the holders of the Series A redeemable convertible preferred stock have neither exercised nor waived this right and accordingly this right may be exercised at any time. If we do not have the funds necessary to redeem the Series A redeemable convertible preferred stock, the dividends accruing on any outstanding Series A redeemable convertible preferred stock will increase to prime plus 10% (from prime plus 5%). For each six months that the Series A redeemable convertible preferred stock remains unredeemed, the dividend rate increases by 1%, subject to a maximum dividend rate of 19%. Paying these increased dividends could further decrease the amount of capital we have available to run and to invest in our business. In addition, our failure to redeem the Series A redeemable convertible preferred stock would be considered a "Breach Event" under the agreements with the holders of the Series A redeemable convertible preferred stock. If a Breach Event were to occur, then, under the agreements with the holders of our Series A redeemable convertible preferred stock, our Board of Directors would automatically be increased, with the holders of the Series A redeemable convertible preferred stock having the right to appoint the new directors, so that the holders of the Series A redeemable convertible preferred stock would have appointed a majority of the Board of Directors. This would give the holders of the Series A redeemable convertible preferred stock control of the Company. There can be no assurance that we will be able to redeem the Series A redeemable convertible preferred stock should the holders of our Series A redeemable convertible preferred stock request such redemption.

The holders of the Series A redeemable convertible preferred stock have the right to require redemption of the Series A redeemable convertible preferred stock after August 5, 2017. If we are not able to redeem the Series A redeemable convertible preferred stock following a redemption request, the dividends on the Series A redeemable convertible preferred stock will increase. These increased dividends could further reduce the amount of capital available for use in our business. In addition, if we are not able to redeem the Series A redeemable convertible preferred stock then the holders of the Series A redeemable convertible preferred stock will be entitled to appoint a majority of our Board of Directors, which will give the holders of the Series A redeemable convertible preferred stock control of the Company. There can be no assurance that we will be able to redeem the Series A redeemable convertible preferred stock after August 5, 2017.

After August 5, 2017, the holders of the Series A redeemable convertible preferred stock have the right to demand redemption of any of the outstanding Series A redeemable convertible preferred stock that they still hold. If we do not have the funds necessary to redeem the Series A redeemable convertible preferred stock, the dividends accruing on any outstanding Series A redeemable convertible preferred stock will increase to prime plus 10% (from prime plus 5%). For each six months that the Series A redeemable convertible preferred stock remains unredeemed, the dividend

rate increases by 1%, subject to a maximum dividend rate of 19%. Paying these increased dividends could further decrease the amount of capital we have available to run and to invest in our business. In addition, our failure to redeem the Series A redeemable convertible preferred stock would be considered a “Breach Event” under the agreements with the holders of the Series A redeemable convertible preferred stock. If a Breach Event were to occur, then, under the agreements with the holders of our Series A redeemable convertible preferred stock, our Board of Directors would automatically be increased, with the holders of the Series A redeemable convertible preferred stock having the right to appoint the new directors, so that the holders of the Series A redeemable convertible preferred stock would have appointed a majority of the Board of Directors. This would give the holders of the Series A redeemable convertible preferred stock control of the Company. There can be no assurance that we will be able to redeem the Series A redeemable convertible preferred stock after August 5, 2017 should the holders of our Series A redeemable convertible preferred stock request such redemption.

We have had a history of losses since 2009. There is no guarantee that we will be able to return to, or to maintain, profitability.

We have had a history of losses since 2009. We have taken steps to try to reduce or to eliminate the chance of future losses - such as reducing headcount and other expenses and trying to replace lost OEM sales with sales of FalconStor-branded products - but there is no guarantee that we will be able to return to or to maintain profitability. In addition, our future profitability could be negatively impacted by the decrease of bookings to \$30.0 million for the year ended December 31, 2016 as compared with \$38.9 million for the year ended December 31, 2015. As of December 31, 2016, we had approximately \$3.4 million in cash and cash equivalents. If losses recur, we will deplete our available cash and we may not be able to continue to fund effective sales and marketing or research and development activities on which we are dependent. In addition, to the extent that we continue to incur losses, we may need to seek additional financing and there can be no assurance that we will be able to obtain financing or that such financing will be on favorable terms. Furthermore, to the extent that we issue equity securities in a financing it could be dilutive to our stockholders.

We have received delisting notices from NASDAQ and if our stock price continues to trade below \$1.00 per share or the market value of our common stock continues to be below \$35 million, our common stock will be delisted from NASDAQ.

The NASDAQ Capital Market requires that our common stock maintain a bid price of at least \$1.00 per share. As of November 22, 2016, the closing price of our common stock had been below \$1.00 for 30 consecutive trading days and the Company received written notification from the NASDAQ Stock Market LLC indicating that the Company is not in compliance with NASDAQ Listing Rule 5550(a)(2), as the Company's closing bid price for its common stock was below the \$1.00 per share requirement for the previous 30 consecutive business days. Compliance can be achieved by meeting the applicable standard for a minimum of 10 consecutive trading days during the 180 day compliance period ending May 22, 2017, of which there can be no assurance. In addition, because we have a stockholder deficit, the NASDAQ Capital Market requires the market value of our common stock to be at least \$35 million. As of December 6, 2016, the market value of our common stock had been below \$35 million for 30 consecutive trading days and the Company received written notification from the NASDAQ Stock Market LLC indicating that the Company is not in compliance with NASDAQ Listing Rule 5550(b)(2), as the Company's market value of listed securities was below \$35 million for the previous 30 consecutive business days. Compliance can be achieved by meeting the applicable standard for a minimum of 10 consecutive trading days during the 180 compliance period ending June 5, 2017, of which there can be no assurance. If our common stock is delisted from the NASDAQ Capital Market, the liquidity of our common stock could be materially impacted and it may be more difficult to make transactions in our common stock.

We recently released our new FreeStor platform and our latest version of CDP/NSS. Our future business, financial and operating results are substantially dependent on the market acceptance of both of these products.

On May 6, 2015 we released our new FreeStor platform, with subsequent enhancements delivered in April and October of 2016 and on November 30, 2016, we released the latest version of our CDP/NSS product, CDP/NSS 9.0. We have spent considerable resources, both financially and in our research and development efforts, developing CDP/NSS 9.0 and FreeStor. In addition, while bookings for FreeStor during the year ended December 31, 2016 exceeded the bookings for this product for the year ended December 31, 2015, the bookings associated with our FreeStor platform failed to make up for declines in our traditional product lines. We currently do not have any other products in our pipeline with the same expectations or which we believe have the same potential for market acceptance as CDP/NSS 9.0 and FreeStor. If (i) either CDP/NSS 9.0 or FreeStor do not gain market acceptance, (ii) sales of either CDP/NSS 9.0 or FreeStor are significantly below our expectations, or (iii) the ongoing future feature/functionality sets of both products are delayed, our results may suffer and it could have a material adverse effect on our business, financial condition and operating results.



We have a significant number of outstanding preferred stock and options, the conversion and exercise of which would dilute the then-existing stockholders' percentage ownership of our common stock, and a smaller number of restricted shares of stock, the vesting of which will also dilute the then-existing stockholders' percentage ownership of our common stock.

As of December 31, 2016, we had outstanding options to purchase 3,491,490 shares of our common stock, we had an aggregate of 2,136,800 outstanding unvested restricted shares and outstanding Series A redeemable convertible preferred stock convertible into 8,781,516 shares of our common stock. If all of the outstanding options were exercised, the proceeds to the Company would average \$3.18 per share. In addition, over the next several years a significant number of shares of common stock are potentially issuable as dividends with respect to the Series A redeemable convertible preferred stock (including 435,438 share of common stock reserved for issuance related to the accrued dividend as of December 31, 2016.). We also had 2,159,170 shares of our common stock reserved for issuance under our stock plans with respect to options (or restricted stock or restricted stock units) that have not been granted. In addition, if, on July 1st of any calendar year in which our 2016 Incentive Stock Plan, (the "2016 Plan"), is in effect, the number of shares of stock to which options, restricted shares and restricted stock units may be granted is less than five percent (5%) of the number of outstanding shares of stock, then the number of shares of stock available for issuance under the 2016 Plan shall be increased so that the number equals five percent (5%) of the shares of common stock outstanding. In no event shall the number of shares of common stock subject to the 2016 Plan in the aggregate exceed twenty million shares, subject to adjustment as provided in the 2016 Plan.

The exercise of all of the outstanding options and/or the vesting of all outstanding restricted shares, the conversion of our outstanding Series A redeemable convertible preferred stock into common stock, the payment of dividends on our Series A redeemable convertible preferred stock through the issuance of common stock and/or the grant and exercise of additional options and/or the grant and vesting of restricted stock and restricted stock units would dilute the then-existing stockholders' percentage ownership of common stock, and any sales in the public market of the common stock issuable upon such exercise could adversely affect prevailing market prices for the common stock. Moreover, the terms upon which we would be able to obtain additional equity capital could be adversely affected because the holders of such securities can be expected to exercise or convert them at a time when we would, in all likelihood, be able to obtain any needed capital on terms more favorable than those provided by such securities.

We have undertaken a restructuring and other cost reduction initiatives to reduce our expenses and to better align our expenses with our business. There can be no assurance that we have made enough reductions or the right reductions. Since the third quarter of 2013 we have taken several actions to reduce expenses significantly in an attempt to help return the Company to profitability. Among the actions we took were: A reduction in personnel of approximately 60%; closing offices in geographic locations where our expenses have continued to outpace our revenue; and reducing other expenditures. To date, the reduction in expenses has not been sufficient to return the Company to profitability. There can be no guarantee that the reductions we have made are the right reductions for our business going forward. There is a risk that the restructuring, cost cutting initiatives and reduction in personnel will make it more difficult to grow the business and service our customers.

We continue to have turnover in our senior management.

On September 15, 2016, our Executive Vice President, Chief Financial Officer and Treasurer resigned from all his positions in the Company. Daniel Murale was appointed as Vice President and Interim Chief Financial Officer effective September 15, 2016. Mr. Murale served as the Company's Director of Finance from June 2013 until his appointment as Vice President and Interim Chief Financial Officer.

In addition to our Executive Vice President, Chief Financial Officer and Treasurer's resignations, in the past few years we have had turnover in other senior positions. We have filled these positions with highly qualified individuals with extensive storage and software company experience. However, there can be no guarantee that the new senior management will be able to get up to speed and successfully manage the Company. In addition, with the exception of Gary Quinn, we have no employment agreements with any of our senior management and there can be no assurance that we will be able to retain any or all of the members of the senior management team.

We are dependent on a significant customer.

For the years ended December 31, 2016 and 2015, we had one customer, Hitachi Data Systems, which accounted for 11% and 10% of our total revenue, respectively. The loss of this customer, or a significant reduction in revenue from this customer, could have a material adverse effect on our results of operations. In addition, for the year ended December 31, 2015 we had one customer, Violin Memory, Inc., which accounted for 23% of our total revenue. This revenue related to our joint development agreement with Violin Memory, Inc, which was a one-time agreement.

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A significant portion of our receivables is concentrated with three customers.

As of December 31, 2016, Datang Telecom International Technology Co., Ltd, Hitachi Data Systems and Huawei Technologies Co., Ltd, accounted for 15%, 14% and 12% of our gross accounts receivable balance, respectively. We currently have no reason to expect that these customers will fail to pay the amounts invoiced, nor do we have any history of non-payment with these customers, but the concentration of these receivables means that any failure by these customers to pay us all or a significant portion of these receivables would have a material impact on us.

Due to the uncertain and shifting development of the data protection and network storage software markets and our reliance on our partners, we may have difficulty accurately predicting revenue for future periods and appropriately budgeting for expenses.

The rapidly evolving nature of the data protection and network storage software markets in which we sell our products, the degrees of effort and success of our partners' sales and marketing efforts, and other factors that are beyond our control, reduce our ability to accurately forecast our quarterly and annual revenue. However, we must use our forecasted revenue to establish our expense budget. Most of our expenses are fixed in the short term or incurred in advance of anticipated revenue. As a result, we may not be able to decrease our expenses in a timely manner to offset any shortfall in revenue.

If we are unable to develop and manufacture new products that achieve acceptance in the data protection and the network storage software markets, our operating results may suffer.

The data protection and the network storage software markets continue to evolve and as a result there is continuing demand for new products. Accordingly, we may need to develop and manufacture new products that address additional data protection or network storage software market segments and emerging technologies to remain competitive in the data storage software industry. We are uncertain whether we will successfully qualify new data protection or network storage software products with our customers by meeting customer performance and quality specifications. Any failure to address additional market segments could harm our business, financial condition and operating results.

Our products must conform to industry standards in order to be accepted by customers in our markets.

Our current products are only one part of a storage system. All components of these systems must comply with the same industry standards in order to operate together efficiently. We depend on companies that provide other components of these systems to conform to industry standards. Some industry standards may not be widely adopted or implemented uniformly, and competing standards may emerge that may be preferred by OEM customers or end users. If other providers of components do not support the same industry standards as we do, or if competing standards emerge, our products may not achieve market acceptance, which would adversely affect our business.



Our products handle mission-critical data for our end-customers and are highly technical in nature. If our products have defects, failures occur or end-customer data is lost or corrupted, our reputation and business could be harmed.

Our products are highly technical and complex and are involved in storing and replicating mission-critical data for our end-customers. Our products may contain undetected defects and failures when they are first introduced or as new versions are released. We have in the past and may in the future discover software errors in new versions of our existing products, new products or product enhancements after their release or introduction, which could result in lost revenue. Despite testing by us and by current and potential end-customers, errors might not be found in new releases or products until after commencement of commercial shipments, resulting in loss of or delay in market acceptance. Our products may have security vulnerabilities and be subject to intentional attacks by viruses that seek to take advantage of these bugs, errors or other weaknesses. If defects or failures occur in our products, a number of negative effects in our business could result, including:

- lost revenue or lost end-customers;
- increased costs, including warranty expense and costs associated with end-customer support;
- delays, cancellations, reductions or rescheduling of orders or shipments;
- product returns or discounts;
- diversion of management resources;
- legal claims for breach of contract, product liability, tort or breach of warranty; and
- damage to our reputation and brand.

Because our end-customers use our products to manage and protect their data, we could face claims resulting from any loss or corruption of our end-customers' data due to a product defect. While our sales contracts contain provisions relating to warranty disclaimers and liability limitations, these provisions might not be upheld. Defending a lawsuit, regardless of its merit, is costly and may divert management's attention from our business and could result in public perception that our products are not effective, even if the occurrence is unrelated to the use of our products. In addition, our business liability insurance coverage might not be adequate to cover such claims. If any data is lost or corrupted in connection with the use or support of our products, our reputation could be harmed and market acceptance of our products could suffer.

Issues with the hardware on which our software products are installed could increase our support costs and result in lower sales of our products.

We deliver some of our products, both through our resellers and directly to end-users, installed on third party hardware. If the hardware does not function properly, our support costs will go up. We will have to arrange or pay for the repair or replacement of the broken hardware and we may have to increase the size of our support operations. Hardware reliability issues could also cause resellers and end-users to refuse to make purchases from us, even if our software products function properly.

We rely on our resellers and our OEM partners for most of our sales.

The vast majority of our sales come from sales to end users of our products by our resellers and by our OEM partners. These resellers and OEM partners have limited resources and sales forces and sell many different products, both in the data protection and the network storage software markets and in other markets. The resellers and OEM partners may choose to focus their sales efforts on other products in the data protection and the network storage software markets or other markets. The OEM partners might also choose not to continue to develop or to market products which include our products. This would likely result in lower revenue to us and would impede our ability to grow our business.

The failure of our resellers to sell our products effectively could have a material adverse effect on our revenue and results of operations.

We rely significantly on our value-added resellers, direct market resellers, systems integrators and corporate resellers, which we collectively refer to as resellers, for the marketing and distribution of our software products and our services. However, our agreements with resellers are generally not exclusive, are generally renewable annually and in many cases may be terminated by either party without cause. Many of our resellers carry products that are competitive with ours. These resellers may give a higher priority to other products, including those of our competitors, or may not continue to carry our products at all. If a number of resellers were to discontinue or reduce the sales of our products, or were to promote our competitors' products in lieu of ours, it would have a material adverse effect on our future revenue. Events or occurrences of this nature could seriously harm our sales and results of operations. In addition, we expect that a significant portion of our sales growth will depend upon our ability to identify and attract new reseller partners. The use of resellers is an integral part of our distribution network. We believe that our competitors also use reseller arrangements. Our competitors may be more successful in attracting reseller partners and could enter into exclusive relationships with resellers that make it difficult to expand our reseller network. Any failure on our part to expand our network of resellers could impair our ability to grow revenue in the future.

Our growth depends in part on the success of our strategic relationships with third parties.

Our future growth will depend on our ability to enter into successful strategic relationships with third parties. For example, our strategic relationships with DSI, Fujitsu, Hitachi Data Systems, Huawei and X-IO are intended to for the Flash/SSD market targeting customers wanting to integrate new Flash/SSD technology into existing IT environments and OEMs needing to enhance their software stack in order to offer data movement and protection services on their platform. In addition, we work with global distributors to streamline and grow our sales channel. These relationships may not result in additional customers or enable us to generate significant revenue. These relationships are typically non-exclusive and do not prohibit the other party from working with our competitors or from offering competing services. If we are unsuccessful in establishing or maintaining our relationships with these third parties, our ability to compete in the marketplace or to grow our revenue could be impaired and our operating results could suffer.

We rely on channel partners to sell our solutions, and disruptions to, or our failure to develop and manage our channel partners would harm our business.

Our future success is partially dependent upon establishing and maintaining successful relationships with the right channel partners. A majority of our revenue is generated by sales through our channel partners, and we expect channel sales to continue to make up the majority of our total revenue in the future. Accordingly, our revenue is largely dependent on the effective sales and lead generation activities of these channel partners.

Recruiting and retaining qualified channel partners and training them in our technology and product offerings requires significant time and resources. In order to develop and expand our distribution channel, we must continue to scale and improve our processes and procedures that support our channel, including investment in systems and training. Those processes and procedures may become increasingly complex and difficult to manage as we grow our organization. We have no minimum purchase commitments from any of our channel partners, and our contracts with these channel partners do not prohibit them from offering products or services that compete with ours. Our competitors may provide incentives to existing and potential channel partners to favor their products or to prevent or reduce sales of our solutions. Our channel partners may choose not to offer our solutions exclusively or at all. Establishing relationships with channel partners who have a history of selling our competitors' products may also prove to be difficult. In addition, some of our channel partners are also competitors. Our failure to establish and maintain successful relationships with channel partners would harm our business and operating results.

We face intense competition in our market, especially from larger, well-established companies, and we may lack sufficient financial or other resources to maintain or improve our competitive position.

A number of very large corporations have historically dominated the data management market. We consider our primary competitors to be companies that provide enterprise storage products, including Dell Inc., Hitachi Data Systems, Hewlett-Packard Company ("HPE"), IBM, CommVault, DataCore and Nexenta. We also compete to a lesser

extent with a number of other private companies and certain well-established companies. Some of our competitors have made acquisitions of businesses that allow them to offer more directly competitive and comprehensive solutions than they had previously offered. In addition, the emergence of cloud computing and software-defined-storage may impact both short-term and long-term growth patterns in the markets in which we compete. We expect to encounter new competitors domestically and internationally as other companies enter our market or if we enter new markets.

Many of our existing competitors have, and some of our potential competitors could have, substantial competitive advantages such as:

- potential for broader market acceptance of their storage architectures and solutions;
- greater name recognition and longer operating histories;
- larger sales and marketing and customer support budgets and resources;
- broader distribution and established relationships with distribution partners and end-customers;
- the ability to bundle storage products with other technology products and services, or offer a broader range of storage solutions to better fit certain customers' needs;
- lower labor and development costs;
- larger and more mature intellectual property portfolios;
- substantially greater financial, technical and other resources; and
- greater resources to make acquisitions.

Our ability to sell our products is highly dependent on the quality of our services offerings, and our failure to offer high quality support and professional services would have a material adverse effect on our sales of our products and results of operations.

Our services include the assessment and design of solutions to meet our customers' data protection and storage management requirements and the efficient installation and deployment of our products based on specified business objectives. Further, once our products are deployed, our customers depend on us to resolve issues relating to our products. A high level of service is critical for the successful marketing and sale of our software. If our partners or we do not effectively install or deploy our applications, or succeed in helping our customers quickly resolve post-deployment issues, it would adversely affect our ability to sell software products to existing customers and could harm our reputation with potential customers. As a result, our failure to maintain high quality support and professional services would have a material adverse effect on our sales of our products and results of operations.

Failure to achieve anticipated growth could harm our business and operating results.

Achieving our anticipated growth will depend on a number of factors, some of which include:

- retention of key management, marketing and technical personnel;
- our ability to increase our customer base and to increase the sales of our products; and
- competitive conditions in the network storage infrastructure software market.

We cannot assure you that the anticipated growth will be achieved. The failure to achieve anticipated growth could harm our business, financial condition and operating results.

Adverse economic conditions or reduced IT spending may adversely impact our business.

Our business depends on the overall demand for IT and on the economic health of our current and prospective customers. In general, worldwide economic conditions remain unstable, and these conditions make it difficult for our current and prospective customers and us to forecast and plan future business activities accurately, and they could cause our customers or prospective customers to reevaluate their decision to purchase our products or services. Weak global economic conditions, or a reduction in IT spending even if economic conditions improve, could adversely impact our business and operating results in a number of ways, including longer sales cycles, lower prices for our products, reduced bookings and lower or no growth.

Our future quarterly results may fluctuate significantly, which could cause our stock price to decline.

Our previous results are not necessarily indicative of our future performance and our future quarterly results may fluctuate significantly. Our future performance will depend on many factors, including:

- fluctuations in the economy;

- the timing of securing software license contracts and the delivery of software and related revenue recognition;
- the seasonality of information technology, including network storage products, spending;
- the average unit selling price of our products;
- existing or new competitors introducing better products at competitive prices before we do;
- our ability to manage successfully the complex and difficult process of qualifying our products with our customers;
- new products or enhancements from us or our competitors;
- our ability to release new and innovative products;
- import or export restrictions on our proprietary technology; and

personnel changes.

Many of our expenses are relatively fixed and difficult to reduce or modify. As a result, the fixed nature of our expenses will magnify any adverse effect of a decrease in revenue on our operating results.

The ability to predict our future effective tax rates could impact our ability to accurately forecast future earnings.

We are subject to income taxes in both the United States and the various foreign jurisdictions in which we operate.

Judgment is required in determining our provision for income taxes and there are many transactions and calculations where the tax determination may be uncertain. Our future effective tax rates could be affected by changes in our (i) earnings or losses; (ii) changes in the valuation of our deferred tax assets; (iii) changes in tax laws; and (iv) other factors. Our ability to correctly predict our future effective tax rates based upon these possible changes could significantly impact our forecasted earnings.

Our stock price may be volatile.

The market price of our common stock has been volatile in the past and may be volatile in the future. For example, during the twelve months ended December 31, 2016, the closing market price of our common stock as quoted on the NASDAQ Capital Market fluctuated between \$0.45 and \$1.89. The market price of our common stock may be significantly affected by the following factors:

- delisting from the NASDAQ Capital Market;

- actual or anticipated fluctuations in our operating results, including changes in the timing of when we recognize revenue;

- failure to meet financial estimates;

- changes in market valuations of other technology companies, particularly those in the network storage software market;

- the announcement of any strategic alternatives;

- announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships, strategic alternatives, joint ventures or capital commitments;

- loss of one or more key customers;

- the issuance of additional shares of the Series A redeemable convertible preferred stock pursuant to dividend rights; and

- departures of key personnel.

The stock market has experienced extreme volatility that often has been unrelated to the performance of particular companies. These market fluctuations may cause our stock price to fall regardless of our performance.

The likelihood of a change of control in our company could be impacted by the fact that we have a significant amount of authorized but unissued preferred stock, outstanding Series A redeemable convertible preferred stock, a staggered Board of Directors and change of control agreements as well as certain provisions under Delaware law.

Our Board of Directors has the authority, without further action by our common stockholders, to issue up to an additional 1,100,000 shares of preferred stock on such terms and with such rights, preferences and designations, including, without limitation restricting dividends on our common stock, dilution of the voting power of our common stock and impairing the liquidation rights of the holders of our common stock, as the Board may determine without any vote of our common stockholders. Issuance of such preferred stock, depending upon the rights, preferences and designations thereof may have the effect of delaying, deterring or preventing a change in control. Moreover, our outstanding Series A redeemable convertible preferred stock provides the holders with certain rights in the event of a merger with a third party and if we are unable to redeem the Series A redeemable convertible preferred stock prior to August 5, 2017 or if the holders of the Series A redeemable convertible preferred stock elect to exercise their rights to require the Company to redeem the Series A redeemable convertible preferred stock due to the failure of the Company to comply with the financial covenants covering the Series A redeemable convertible preferred stock. In addition, certain “anti-takeover” provisions of the Delaware General Corporation Law, among other things, may restrict the ability of our stockholders to authorize a merger, business combination or change of control. Further, we have a

staggered Board of Directors and have entered into change of control agreements through either employment agreements or our 2005 Key Executive Severance Protection Plan or our Key Employee Change in Control Severance Agreement with certain executives. As a result, our stockholders may lose opportunities to dispose of their shares at favorable prices generally available in takeover attempts or that may be available under a merger proposal and the market price of our common stock and the voting and other rights of our stockholders may also be affected.

Our business could be materially affected as a result of a natural disaster, terrorist acts, or other catastrophic events. While our headquarters facilities contain redundant power supplies and generators, our domestic and foreign operations, and the operations of our industry partners, remain susceptible to fire, floods, power loss, power shortages, telecommunications failures, break-ins and similar events. Terrorist actions domestically or abroad could lead to business disruptions or to cancellations of customer orders or a general decrease in corporate spending on information technology, or could have direct impact on our marketing, administrative or financial functions and our financial condition could suffer. We continually look for alternatives to help mitigate any supply chain disruptions due to natural disasters, terrorist acts or other catastrophic events. However, our failure to mitigate these supply chain disruptions could impact our ability to procure and deliver products to our customers, which could adversely impact our overall financial condition.

We are dependent on a variety of IT and telecommunications systems, and any failure of these systems could adversely impact our business and operating results.

We depend on IT and telecommunications systems for our operations. These systems support a variety of functions including order processing, shipping, shipment tracking, billing, support center and internal information exchange. Failures or significant downtime of our IT or telecommunications systems could prevent us from taking customer orders, shipping products, billing customers, handling support calls, or communication among our offices. The Internet and individual websites have experienced a number of disruptions and slowdowns, some of which were caused by organized attacks. In addition, some websites have experienced security breakdowns. If we were to experience a security breakdown, disruption or breach that compromised sensitive information, it could harm our relationship with our customers. Our support centers are dependent upon telephone and data services provided by third party telecommunications service vendors and our IT and telecommunications system. Any significant increase in our IT and telecommunications costs or temporary or permanent loss of our IT or telecommunications systems could harm our relationships with our customers. The occurrence of any of these events could have an adverse effect on our operations and financial results.

United States Government export restrictions could impede our ability to sell our software to certain end users. Certain of our products include the ability for the end user to encrypt data. The United States, through the Bureau of Industry Security, places restrictions on the export of certain encryption technology. These restrictions may include: the requirement to have a license to export the technology; the requirement to have software licenses approved before export is allowed; and outright bans on the licensing of certain encryption technology to particular end users or to all end users in a particular country. Certain of our products are subject to various levels of export restrictions. These export restrictions could negatively impact our business.

The international nature of our business could have an adverse affect on our operating results.

We sell our products worldwide. Accordingly, our operating results could be materially adversely affected by various factors including regulatory, political, or economic conditions in a specific country or region, trade protection measures and other regulatory requirements, and acts of terrorism and international conflicts.

Additional risks inherent in our international business activities generally include, among others, longer accounts receivable payment cycles, difficulties in managing international operations, decreased flexibility in matching workforce needs as compared with the U.S., and potentially adverse tax consequences. Such factors could materially adversely affect our future international sales and, consequently, our operating results.

Foreign currency fluctuations may impact our revenue.

Our licenses and services in Japan are sold in Yen. Many of our licenses and services in Australia, Canada, and in Europe are sold in Australian dollars, Canadian dollars and European Monetary Units (“Euros”), respectively. Changes in economic or political conditions globally and in any of the countries in which we operate could result in exchange rate movements, new currency or exchange controls or other restrictions being imposed on our operations.

Fluctuations in the value of the U.S. dollar may adversely affect our results of operations. Because our consolidated financial results are reported in U.S. dollars, translation of sales or earnings generated in other currencies into U.S. dollars can result in a significant increase or decrease in the reported amount of those sales or earnings. Significant changes in the value of these foreign currencies relative to the U.S. dollar could have a material adverse effect on our financial condition or results of operations. For example, the Euro has weakened against the U.S. dollar by 4% from



December 31, 2015 to December 31, 2016.

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Fluctuations in currencies relative to currencies in which our earnings are generated make it more difficult to perform period-to-period comparisons of our reported results of operations. For purposes of accounting, the assets and liabilities of our foreign operations, where the local currency is the functional currency, are translated using period-end exchange rates, and the revenue, expenses and cash flows of our foreign operations are translated using average exchange rates during each period.

In addition to currency translation risks, we incur currency transaction risk whenever we enter into either a purchase or a sales transaction using a currency other than the local currency of the transacting entity. Given the volatility of exchange rates, we cannot be assured we will be able to effectively manage our currency transaction and/or translation risks. Volatility in currency exchange rates may have a material effect on our financial condition or results of operations. Currency exchange rate fluctuations have not, in the past, resulted in a material impact on earnings. However, we may experience at times in the future an impact on earnings as a result of foreign currency exchange rate fluctuations.

Because we conduct operations in China, risks associated with economic, political and social events in China could negatively affect our business and operating results.

China is a significant market for our products. We have an OEM agreement with Huawei which has historically provided us with significant revenue. As of December 31, 2016 we have 14 employees in China. Our operations in China are subject to a number of risks relating to China's economic and political systems, including:

- government controlled foreign exchange rate and limitations on the convertibility of the Chinese Renminbi;
- extensive government regulation;
- changing governmental policies relating to tax benefits available to foreign-owned businesses;
- the telecommunications infrastructure;
- relatively uncertain legal system; and
- uncertainties related to continued economic and social reform.

Any significant interruption in our China operations, whether resulting from any of the above uncertainties, natural disasters or otherwise, could result in delays or disruptions in our revenue and our research development operations, either of which could cause our business and operating results to suffer.

If we are unable to protect our intellectual property, our business will suffer.

Our success is dependent upon our proprietary technology. We have 27 patents issued, and numerous pending patent applications, numerous trademarks registered and multiple pending trademark applications related to our products. We cannot predict whether we will receive patents for our pending or future patent applications, and any patents that we own or that are issued to us may be invalidated, circumvented or challenged. In addition, the laws of certain countries in which we sell and manufacture our products, including various countries in Asia, may not protect our products and intellectual property rights to the same extent as the laws of the United States.

We also rely on trade secret, copyright and trademark laws, as well as the confidentiality and other restrictions contained in our respective sales contracts and confidentiality agreements to protect our proprietary rights. These legal protections afford only limited protection and if we are unable to protect our intellectual property our business and operating results may suffer.

Our efforts to protect our intellectual property may cause us to become involved in costly and lengthy litigation, which could seriously harm our business.

In recent years, there has been significant litigation in the United States involving patents, trademarks and other intellectual property rights.

We were already subject to one action, which alleged that our technology infringed on patents held by a third party. While we settled this litigation, the fees and expenses of the litigation as well as the litigation settlement were expensive and the litigation diverted management's time and attention. Any additional litigation, regardless of its outcome, would likely be time consuming and expensive to resolve and would divert management's time and attention and might subject us to significant liability for damages or invalidate our intellectual property rights. Any potential intellectual property litigation against us could force us to take specific actions (any of which could have a material adverse effect on our business), including:

- cease selling our products that use the challenged intellectual property;
- obtain from the owner of the infringed intellectual property right a license to sell or use the relevant technology or trademark, which license may not be available on reasonable terms, or at all; or

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re-design those products that use infringing intellectual property or cease to use an infringing product or trademark.

Developments limiting the availability of Open Source software could impact our ability to deliver products and could subject us to costly litigation.

Many of our products are designed to include software or other intellectual property licensed from third parties, including “Open Source” software. At least one intellectual property rights holder has alleged that it holds the rights to software traditionally viewed as Open Source. In addition, United States courts have not interpreted the terms of many open source licenses, and there is a risk that such licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our appliances. We could be required to seek licenses from third parties in order to continue offering our software, to re-engineer our software, to discontinue the sale of our software in the event re-engineering cannot be accomplished on a timely basis or to litigate any disputes relating to our use of open source software, any of which could harm our business. There can be no assurance that the necessary licenses would be available on acceptable terms, if at all. The inability to obtain certain licenses or other rights or to obtain such licenses or rights on favorable terms, or the need to engage in litigation regarding these matters, could have a material adverse effect on our business, operating results, and financial condition. Moreover, the inclusion in our products of software or other intellectual property licensed from third parties on a nonexclusive basis could limit our ability to protect our proprietary rights in our products.

The loss of any of our key personnel could harm our business.

Our success depends upon the continued contributions of our key employees, many of whom would be extremely difficult to replace. We do not have key person life insurance on any of our personnel. Worldwide competition for skilled employees in the network storage software industry is extremely intense. In particular our success is dependent on our executive management team, including Gary Quinn, our President and Chief Executive Officer, whose employment agreement expires in July 2017. If we are unable to retain existing employees or hire and integrate new employees, our business, financial condition and operating results could suffer.

If actual results or events differ materially from our estimates and assumptions, our reported financial condition and results of operations for future periods could be materially affected.

The preparation of consolidated financial statements and related disclosure in accordance with generally accepted accounting principles requires management to establish policies that contain estimates and assumptions that affect the amounts reported in the consolidated financial statements and the accompanying notes. Note 1 to the Consolidated Financial Statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 describes the significant accounting policies and estimates essential to preparing our financial statements. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosures. We base our estimates on historical experience and assumptions that we believe to be reasonable under the circumstances. Actual future results may differ materially from these estimates. We evaluate, on an ongoing basis, our estimates and assumptions.

Our agreements with the holders of the Series A redeemable convertible preferred stock contain covenants that could limit our ability to obtain financing using our equity. In addition, if we engage in future financings, we may have to use the proceeds to redeem the preferred stock held by such holders. This could cause us to have difficulty in obtaining capital necessary to run our business.

Our agreements with the holders of the Series A redeemable convertible preferred stock give such holders veto power over certain future financings, and give such holders certain rights to participate in any subsequent financing, whether through debt or equity (subject to certain exclusions). These participation rights could discourage a potential investor or a potential lender from making financing available to us on favorable terms. Because of these covenants, if we determine that we are in need of additional capital, we might not be able to obtain it. In addition, our agreements with the holders of the Series A redeemable convertible preferred stock provide that if, at the time of certain future debt or equity financings, the proceeds of which exceed \$5 million, the holders of the Series A redeemable convertible preferred stock still have outstanding Series A redeemable convertible preferred stock, then we must offer to repurchase their Series A redeemable convertible preferred stock. The holders of the Series A redeemable convertible

preferred stock have the right to accept the offer or to retain their Series A redeemable convertible preferred stock. If we do a financing, and the holders of the Series A redeemable convertible preferred stock elect to have their Series A redeemable convertible preferred stock repurchased, then the capital raised in excess of \$5 million will go to repurchase the holders' Series A redeemable convertible preferred stock, instead of being able to be used for our business.

Our agreements with the holders of the Series A redeemable convertible preferred stock prevent us from undertaking certain transactions or incurring certain indebtedness without such holders' consent or unless the Series A redeemable convertible

preferred stock held by such holders is repurchased. This could hurt our ability to sell underperforming assets or lines of business or to obtain financing.

Our agreements with the holders of the Series A redeemable convertible preferred stock prevent us from undertaking certain transactions or incurring certain debt without such holders' consent or unless the Series A redeemable convertible preferred stock held by such holders' is repurchased. These transactions include, but are not limited to:

- A merger with, or the sale of substantially all of the Company's assets or capital stock, to a third party;
- Assumption of indebtedness in excess of 80% of the Company's accounts receivable; and
- The sale, license or other disposition of 10% or more of the tangible assets or capital stock of the Company.

This could limit our ability to sell off underperforming assets or business lines. It could also prevent us from obtaining financing we may need to run or to grow our business.

The holders of the Series A redeemable convertible preferred stock are entitled to dividends on the Series A redeemable convertible preferred stock they hold. Depending on whether these dividends are paid in cash or stock, the payment of these dividends will either decrease cash that is available to us to invest in our business or dilute the holdings of all other stockholders.

Our agreements with the holders of the Series A redeemable convertible preferred stock provide that such holders will receive quarterly dividends on the Series A redeemable convertible preferred stock at prime rate plus 5%, subject to a maximum dividend rate of 10%. If we do not have at least \$1.0 million in positive cash flow for any calendar quarter after giving effect to the payment of such dividends, then we can, at our election, pay such dividends in whole or in part in cash, provided that cash flow from operations is not negative, and the remainder can be accrued or paid in common stock to the extent certain equity conditions are satisfied. We also have the ability to accrue and roll over dividends. During 2016, the Company issued 624,009 shares of the Company's common stock as payment for the fourth quarter 2015 and the first three quarters of 2016 dividends. As of December 31, 2016, due to the lack of sufficient surplus to pay dividends as required by the Delaware General Business Corporation Law, the Company was not permitted to pay the fourth quarter dividend in cash or common stock and accrued its fourth quarter 2016 dividend. Accordingly, under Item 1A. of Form S-3, the Company will not be S-3 eligible when it files this Annual Report on Form 10-K. As a result, the Company will not be eligible to utilize the shelf registration statement on Form S-3 that was declared effective by the SEC in 2016. This inability to use Form S-3 for future capital raises could impact our ability to efficiently and expeditiously raise financing. As of December 31, 2016, the Company's liability for dividends to the holders of the Series A redeemable convertible preferred stock totaled \$0.2 million. The payment of future dividends in cash will reduce the cash that we have available to invest in our business. There can be no assurance that we will have enough cash to pay future dividends in cash. If any future dividends are paid in common stock, this will dilute the holdings of all other stockholders.

#### Unknown Factors

Additional risks and uncertainties of which we are unaware or which currently we deem immaterial also may become important factors that affect us.

#### Item 1B. Unresolved Staff Comments

None

#### Item 2. Properties

The Company's headquarters are located in an approximately 55,000 square foot facility in Melville, New York. Offices are also leased for development, support, and sales and marketing personnel, which total an aggregate of approximately 22,500 square feet in La Garenne, France; Reading, UK; Munich, Germany; Taichung, Taiwan; Tokyo, Japan; Beijing China; Kuala Lumpur, Malaysia; and Singapore. Initial lease terms range from one to six years, with multiple renewal options.

### Item 3. Legal Proceedings

In view of the inherent difficulty of predicting the outcome of litigation, particularly where the claimants seek very large or indeterminate damages, we generally cannot predict what the eventual outcome of the pending matters will be, what the timing of the ultimate resolution of these matters will be, or what the eventual loss, fines or penalties related to each pending matter may be.

In accordance with the authoritative guidance issued by the FASB on contingencies, we accrue anticipated costs of settlement, damages and losses for claims to the extent specific losses are probable and estimable. We record a receivable for insurance recoveries when such amounts are probable and collectable. In such cases, there may be an exposure to loss in excess of any amounts accrued. If, at the time of evaluation, the loss contingency related to a litigation is not both probable and estimable, the matter will continue to be monitored for further developments that would make such loss contingency both probable and estimable and, we will expense these costs as incurred. If the estimate of a probable loss is a range and no amount within the range is more likely, we will accrue the minimum amount of the range.

#### Other Claims

We are subject to various legal proceedings and claims, asserted or unasserted, which arise in the ordinary course of business. While the outcome of any such matters cannot be predicted with certainty, such matters are not expected to have a material adverse effect on our financial condition or operating results.

We continue to assess certain litigation and claims to determine the amounts, if any, that we believe may be paid as a result of such claims and litigation and, therefore, additional losses may be accrued and paid in the future, which could materially adversely impact our financial results, cash flows and cash reserves.

### Item 4. Mine Safety Disclosures

Not applicable



## PART II

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

## Market Information

Our Common Stock is listed on The Nasdaq Capital Market (“Nasdaq”) under the symbol “FALC”. The following table sets forth the range of high and low closing sales prices of our Common Stock for the periods indicated as reported by Nasdaq:

	2016		2015	
	High	Low	High	Low
Fourth Quarter	\$1.03	\$0.45	\$2.07	\$1.80
Third Quarter	\$1.17	\$0.91	\$2.20	\$1.39
Second Quarter	\$1.40	\$1.06	\$1.61	\$1.37
First Quarter	\$1.89	\$1.21	\$1.65	\$1.32

As described under Item 1A. Risk Factors, we have received delisting notices from NASDAQ and if our stock price continues to trade below \$1.00 per share or the market value of our common stock continues to be below \$35 million, our common stock will be delisted from NASDAQ.

## Holders

We had approximately 337 holders of record of Common Stock as of February 28, 2017. This does not reflect persons or entities that hold Common Stock in nominee or “street” name through various brokerage firms.

## Dividends

We have not paid any cash dividends on our common stock since inception. We expect to reinvest any future earnings to finance growth, and therefore do not intend to pay cash dividends on our common stock in the foreseeable future. In addition, the terms of our Series A redeemable convertible preferred stock restrict our ability to pay dividends on our common stock. Our board of directors may determine to pay future cash dividends on our common stock if it determines that dividends are an appropriate use of Company capital.

Holders of the Series A redeemable convertible preferred stock are entitled to receive quarterly dividends at the Prime Rate (Wall Street Journal Eastern Edition) plus 5% (up to a maximum amount of 10%), payable in cash, provided, that if we will not have at least \$1.0 million in positive cash flow for any calendar quarter after giving effect to the payment of such dividends, we, at our election, can pay such dividends in whole or in part in cash, provided that cash flow from operations is not negative, and the remainder can be accrued or paid in common stock to the extent certain equity conditions are satisfied. During 2016, we issued 624,009 shares of our common stock as payment for the fourth quarter 2015 and the first three quarters of 2016 dividends. As of December 31, 2016, due to the lack of sufficient surplus to pay dividends as required by the Delaware General Business Corporation Law, we were not permitted to pay the fourth quarter dividend in cash or through the issuance of our common stock and accrued the fourth quarter 2016 dividend. As of December 31, 2016, our liability for dividends to the holders of the Series A redeemable convertible preferred stock totaled \$195,904.

Equity Compensation Plan Information

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (1)	Weighted-average exercise price of outstanding options, warrants and rights (1)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (1)
	(a)	(b)	(c)
Equity compensation plans approved by security holders	5,628,290	\$1.97	2,159,170

(1) As of December 31, 2016 we had 2,159,170 shares of our common stock reserved for issuance under our stock plans with respect to options (or restricted stock or restricted stock units) that have not been granted. In addition, if, on July 1st of any calendar year in which our 2016 Plan is in effect, the number of shares of stock to which options may be granted is less than five percent (5%) of the number of outstanding shares of stock, then the number of shares of stock available for issuance under the 2016 Plan shall be increased so that the number equals five percent (5%) of the shares of stock outstanding. See Note (10) Share-Based Payment Arrangements to our consolidated financial statements for further information.

Issuer Purchases of Equity Securities

None

Unregistered Sales of Equity Securities and Use of Proceeds

In November 2016, in accordance with the terms of the Certificate of Designations, Preferences and Rights of Series A Convertible Preferred Stock, the Company elected to pay the dividends payable to the holders of the Series A redeemable convertible preferred stock for the period ended September 30, 2016, through the issuance to HCP of 191,010 shares of our common stock.

The common stock issued in the forgoing transaction was issued in accordance with the exemption provided by Section 4(2) of the Securities Act of 1933, as amended.

Item 6. Selected Financial Data

Not required.

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These forward-looking statements can be identified by the use of predictive, future-tense or forward-looking terminology, such as "believes," "anticipates," "expects," "estimates," "plans," "may," "intend," "will," or similar terms. Investors are cautioned that any forward-looking statements are not guarantees of future performance and involve significant risks and uncertainties, and that actual results may differ materially from those projected in the forward-looking statements. The following discussion should be read together with the consolidated financial statements and notes to those financial statements included elsewhere in this report.

### OVERVIEW

During 2016, we continued to innovate and enhance our FreeStor® product, a converged, hardware-agnostic, software-defined storage (SDS) and data services platform. Since the introduction of FreeStor in May 2015, we have continued to develop and enhance the FreeStor platform to address the ever changing market dynamics to ensure that FreeStor continues to be a leader in the SDS market place. The latest enhancements were delivered in October 2016, including new primary instance only pricing, public cloud connectors (AWS, Azure, Oracle Cloud, Aliyun, Huawei), enhanced Core-to-Edge Analytics, Unified Client Management, improved secure multi-tenancy, external security (A.D. and LDAP), and numerous performance optimizations. The FreeStor Cinder Driver for OpenStack has also been approved and is now included in the OpenStack Newton distribution as well as the RedHat OpenStack 8 distribution. Enhancements delivered in April 2016, included end-to-end intelligent predictive analytics which offers insight across heterogeneous storage environments. FreeStor gives customers the ability to move workloads to the right destination, on-premise or in the cloud, with real insight for the right price. FreeStor is an SDS platform that gives customers the power to seamlessly migrate, recover, protect and deduplicate data - on or off the cloud - without tying their business to specific hardware, networks or protocols. FreeStor's Intelligent Abstraction® Layer enables the free flow of data and common services between the front end and back end, regardless of environment or location. Intelligent Abstraction virtualizes both existing and future storage for a more efficient and consolidated storage infrastructure. Unlike array-based analytics, FreeStor's new Intelligent Predictive Analytics provides real-time and historical analytics across heterogeneous storage systems to better manage capacity, performance, and availability. By combining Intelligent Abstraction with Intelligent Predictive Analytics, users are able to take intelligent action based on real-time information to optimize and maintain their storage environment from a single pane of glass regardless of storage vendor or location. FreeStor addresses heterogeneous storage portfolios, all-flash array and hybrid flash array hardware manufacturers which do not have a software stack or do not have an enterprise-ready software stack, and solutions for managed service providers. FreeStor provides centralized management, monitoring, reporting and provisioning through a web browser, tablet or smartphone which gives end-users or storage administrators the ability to be completely mobile when managing their virtual storage portfolio.

Over the past twenty-one months we have continued to drive FreeStor sales through our originally targeted routes to market which included OEMs, Managed Service Providers and Enterprise customers. We have achieved critical customer and marketplace credibility with the early adopter OEMs and Managed Service Providers. Since the introduction and release of FreeStor in mid-2015, FreeStor has won 11 software-defined storage (SDS) product-of-the-year awards at various leading industry publications, including three publications servicing the Asia markets and six publications servicing the European marketplace and two publications in the Americas.

Additionally, during November 2016, we announced the general availability of version 9.0 of our Continuous Data Protection ("CDP"), Network Storage Server ("NSS") and Optimized Backup and Deduplication ("OBD") products. We continue to support our legacy customers and look to convert them to FreeStor, but this will most likely be the last

major release for the legacy products with minor releases still planned as well as compatibility with infrastructure updates.

We offer flexibility in licensing and payment structures, and as a result the product revenue for some transactions are being recognized ratably over the contractual maintenance term. We expect to continue this flexibility going forward, and also expect that the number of transactions with flexible sales terms will increase over time, which could result in variable periods for recognizing the revenue. Furthermore, our FreeStor platform is primarily sold on a subscription based offering with revenue recognition recorded over the term of the subscription. Our support and maintenance revenue is also recognized ratably over the term of the support and maintenance agreement. Our professional services revenue is recognized upon delivery of the professional services unless it is sold as part of a bundled arrangement for which we have not established fair value for all undelivered elements which would require the revenue from the entire arrangement to be recognized over the maintenance period.

We believe that the flexibility in licensing, payment structures and subscription based offerings has made and will continue to make us more competitive in the marketplace by allowing us more flexibility to work with partners and customers to design licensing and payment terms that meet their needs. Offering flexibility in licensing, payment structures and subscription based offerings results in ratable revenue recognition, and accordingly our GAAP revenue will fluctuate depending on the volume and mix of ratable and/or subscription sales from period-to-period.

Most of our revenue comes from sales to customers through resellers. As service providers to companies, resellers' reputations are dependent on satisfying their customers' needs efficiently and effectively. Resellers have wide choices in fulfilling their customers' needs. If resellers determine that a product they have been providing to their customers is not functioning as promised, or is not providing adequate return on investment, or if the customers are not satisfied with the level of support they are receiving from the suppliers, the resellers will move quickly to offer different solutions to their customers. Additional sales by resellers are therefore an important indicator of our business prospects.

Our "Business Partner" program for our resellers provides financial incentives, for those resellers that are willing to make a commitment to FalconStor through training, marketing and revenue. As part of our review of all of our operations to maximize savings without sacrificing sales, and in connection with our Business Partner program, we continually review our relationship with each of our resellers in all regions. We decided to focus on only those resellers who have the expertise, personnel and networks to identify potential customers and to service our end users.

Bookings for the year ended December 31, 2016 totaled \$30.0 million, compared with \$38.9 million for the year ended December 31, 2015. For the year ended December 31, 2016, bookings for the entire FreeStor technology and subscription-based platform increased 73% compared to the same period of 2015. We believe these bookings achievements in such a short period of time validate FreeStor as a leader within the newly emerging SDS marketplace. However, while we are pleased with the bookings growth for the FreeStor technology and subscription-based platform during 2016, these bookings failed to make up for booking declines in our legacy product lines. In addition, the level of customer deal elongation and customer indecisiveness to purchase in a timely manner as a result of customers working through their organizational purchasing strategies continues to provide significant headwinds for both the storage software industry and FalconStor. As a result, we will continually look to optimize our cost-structures and allocate resources in order to gain operational efficiencies in order to match our run-rate outlook of bookings, billings and total revenue to ensure we are optimizing our business operations.

Overall, total revenue for the year ended December 31, 2016 decreased 38% to \$30.3 million, compared with \$48.6 million for the year ended December 31, 2015. This decrease was partly attributable to \$11.3 million of revenue recorded during 2015 associated with our joint development agreement which did not repeat in 2016. Excluding the revenue related to our joint development agreement, total revenue decreased 19% to \$30.3 million for the year ended December 31, 2016, compared with \$37.3 million for the year ended December 31, 2015. We attribute the decline in total revenues to several factors. First, although we have updated and introduced new versions of FreeStor and our point-solutions to address the needs of customers and the marketplace, the volume of new product licenses and maintenance sales, both for expansion of our existing installed base and in the acquisition of new customers declined from the prior year. Second, we have continued to have customer attrition which has resulted in a decrease in maintenance renewal revenue. Third, as stated above, the level of customer deal elongation and customer indecisiveness to purchase in a timely manner as a result of customers working through their organizational purchasing strategies continues to provide significant headwinds for both the storage software industry and FalconStor. We believe that our engineering efforts throughout the year and the release of new and innovative technology which addresses the software-defined-storage marketplace will enable us to capitalize on the rapidly evolving technology landscape and industry standards in 2017.

Cost of revenue for the year ended December 31, 2016 decreased \$1.4 million, or 14%, to \$8.3 million, compared with \$9.7 million for the same period in 2015. Total gross margin decreased to 73% for the year ended December 31,

2016, compared with 80% for the year ended December 31, 2015. Total gross margin excluding the joint development agreement revenue was 73% and 74% for the years ended December 31, 2016 and 2015, respectively. The slight decrease in our total gross margin, excluding the joint development agreement revenue, was primarily due to the mix of sales. Generally, our total gross profits and total gross margins fluctuate based on several factors, including (i) revenue growth levels, (ii) changes in personnel headcount and related costs, and (iii) our product offerings and mix of sales. Our FreeStor product is a subscription-based product offering and is primarily sold as a software only solution, which we anticipate will continue to drive higher product gross margins in the future.

Overall, our total operating expenses, decreased \$7.9 million, or 20%, to \$32.3 million for the year ended December 31, 2016, compared with \$40.2 million for the year ended December 31, 2015. This decrease was primarily attributable to our tighter expense controls and overall operational efficiencies which better align our current business plan on a run-rate basis. These efficiencies include among other items, stream-lined personnel related costs, global overhead costs and efficiencies realized on our redesigned go-to-market coverage models. Our worldwide headcount was 166 employees as of December 31, 2016, compared with 226 employees as of December 31, 2015. We currently anticipate a decrease of approximately 30% in overall expenses in 2017 compared with 2016, although there can be no assurance as to the amount of this decrease.

Operating margin is a measure of operating efficiency. We incur research and development expenses before the product is offered for licensing. These expenses consist primarily of personnel costs for engineering and testing, but also include other items such as the depreciation and amortization of hardware and software used in development. We also have expenses for software support, sales and marketing, and general and administrative functions. While our operating margins continue to be impacted by one-time items, impacts from changes in our licensing model and product transitions, our results are not reflective of our internal targets and we continue to look for ways to improve our operating efficiencies.

Typically, we look to operating income as another measure of our progress. This number enables us to measure and to compare our results of operations from one year to the next. Operating loss for 2016 was \$10.3 million, compared with an operating loss of \$1.3 million in 2015. Included in our operating loss for 2015 was \$11.3 million of revenue attributable to the joint-development agreement. Net loss for the year ended December 31, 2016 was \$11.0 million, compared with a net loss of \$1.9 million for the year ended December 31, 2015.

As of December 31, 2016 and 2015, approximately 67% and 73% of our deferred revenue consists of amounts attributable to future support and maintenance of our products, respectively, and approximately 33% and 27% of deferred revenue consists of amounts attributable to product revenues, respectively. Our deferred revenue decreased 8% from \$25.7 million at December 31, 2015 to \$23.7 million at December 31, 2016. Deferred revenue will be an important key metric to measure our success in growing our business from a top line perspective as we anticipate certain product sales in 2017 to be recognized ratably under the terms of the arrangements and the licensing model of FreeStor as a subscription-based term license.

We have incurred significant operating losses in the previous eight years and negative cash flow from operations in five of the previous eight years. We currently have a working capital deficiency of \$10.5 million, which is inclusive of current deferred revenue of \$15.2 million, and a stockholders' deficit of \$21.7 million. During the year ended December 31, 2016, we incurred a net loss of \$11.0 million and negative cash flow from operations of \$9.4 million. Our total cash balance at December 31, 2016 is \$3.4 million, a decrease of \$10.0 million as compared to December 31, 2015. In addition to these financial metrics, as of December 31, 2016, we were not in compliance with the financial covenants of the Series A redeemable convertible preferred stock, which are mutually agreed to annually, for two consecutive quarters. This breach provides the Series A redeemable convertible preferred stockholders with the right to require us to redeem any of the Series A redeemable convertible preferred stock at the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price of our common stock as of December 31, 2016. To date, the holders of the Series A redeemable convertible preferred stock have neither exercised nor waived this right and accordingly this right may be exercised at any time. In addition, the holders of the Series A redeemable convertible preferred stock have the right to request a redemption of the Series A redeemable convertible preferred stock on or after August 5, 2017. If the holders request that the Series A redeemable convertible preferred stock be redeemed, we may not have sufficient liquidity to undertake the redemption. If we do not redeem the Series A redeemable convertible preferred stock, the holders of the Series A redeemable convertible preferred stock can pursue other remedies. Refer to Note (8) Series A Redeemable Convertible Preferred Stock to our consolidated financial statements for further discussion regarding these other remedies. Our reduced cash balance and history of losses both

in and of itself, and in combination with the redemption rights of the holders of the Series A redeemable convertible preferred stock, raise substantial doubt about our ability to continue as a going concern within one year after March 10, 2017 (the date that these financial statements were issued). Accordingly, the financial statements as of December 31, 2016, included in this Annual Report on Form 10-K were prepared under the assumption that we will continue as a going concern for the next twelve months.



Our ability to continue as a going concern, including in the event of a redemption request by the holder, depends on our ability to execute our business plan, increase revenue and billings and reduce expenditures. During 2016, we continued to focus on aligning our expense structure with revenue expectations which included tighter expense controls and overall operational efficiencies which better align our current business plan on a run-rate basis. These efficiencies include among other items, stream-lined personnel related costs and global overhead costs and efficiencies realized on our redesigned go-to-market coverage models. We have reduced our worldwide headcount to 166 employees as of December 31, 2016, compared with 226 employees as of December 31, 2015. However, the decline in revenue over the last twelve months combined with the separation costs related to the headcount reductions have reduced the impact of these reductions in operating expenses, thereby not achieving the expected reduction of quarterly cash burn rate.

There is no assurance that we will be successful in generating sufficient revenue or continuing to reduce operating costs. In addition, to the extent that we continue to incur losses, we may need to seek additional financing and there can be no assurance that we will be able to obtain financing or that such financing will be on favorable terms. Any such financing could be dilutive to our shareholders. Failure to generate sufficient revenue, billings, control or reduce expenditures and/or the inability to obtain financing will result in an inability of us to continue as a going concern.

We continue to recognize share-based compensation expense in connection with the issuance of equity-based awards as part of our normal business operations. On an on-going basis we weigh the impact of the expense on our consolidated financial statements against the impact of discontinuing the grant of equity-based compensation to our worldwide workforce. It continues to be our view that the opportunity to participate in the growth of our Company is an important motivating and retention tool for our current employees and a valuable recruiting tool for new employees. We will thus continue to apply the criteria and the methodology we have used in the past to determine grants of stock options or other equity-based awards to our employees. For the management of our business and the review of our progress, we will continue to look to our results excluding share-based compensation expense and other limited non-operating focused expenses of the business. We will use these non-GAAP financial measures in making operating decisions because they measure the results of our day-to-day operations and because they provide a more consistent basis for evaluating and comparing our results across different periods.

#### RESULTS OF OPERATIONS – FOR THE YEAR ENDED DECEMBER 31, 2016 COMPARED WITH THE YEAR ENDED DECEMBER 31, 2015

Our primary sales focus is on selling software solutions and platforms which includes stand-alone software applications, software integrated with industry standard hardware and sold as one complete integrated solution or sold on a subscription or consumption basis. As a result, our revenue is classified as either: (i) product revenue, or (ii) support and services revenue. Product revenue consists of both integrated solutions and stand-alone software revenue. Support and services revenue consists of both maintenance revenue and professional services revenue.

Total revenue for the year ended December 31, 2016 decreased 38% to \$30.3 million, compared with \$48.6 million for the year ended December 31, 2015. This decrease was partly attributable to \$11.3 million of revenue recorded during 2015 associated with our joint development agreement which did not repeat in 2016. Excluding the revenue related to our joint development agreement, total revenue decreased 19% to \$30.3 million for the year ended December 31, 2016, compared with \$37.3 million for the year ended December 31, 2015. Our cost of revenue decreased 14% to \$8.3 million for the year ended December 31, 2016, compared with \$9.7 million for the year ended December 31, 2015. Our operating expenses decreased 20% from \$40.2 million for the year ended December 31, 2015 to \$32.3 million for the year ended December 31, 2016. Included in the operating results for the years ended December 31, 2016 and 2015 were; (i) \$2.3 million and \$1.9 million, respectively, of share-based compensation expense; and (ii) \$0.2 million of restructuring costs in each year. Net loss for the year ended December 31, 2016 was \$11.0 million, compared with \$1.9 million for the year ended December 31, 2015. Net loss attributable to common stockholders, which includes the effects of the Series A redeemable convertible preferred stock dividends (including

accrued dividends) and accretion, was \$13.0 million for the year ended December 31, 2016, compared with \$3.3 million for the year ended December 31, 2015.

Overall, our total operating expenses, decreased \$7.9 million, or 20%, to \$32.3 million for the year ended December 31, 2016, compared with \$40.2 million for the year ended December 31, 2015. This decrease was primarily attributable to our tighter expense controls and overall operational efficiencies which better align our current business plan on a run-rate basis. These efficiencies include among other items, stream-lined personnel related costs, global overhead costs and efficiencies realized on our redesigned go-to-market coverage models. In addition, the decrease is attributable to a decrease in professional fees primarily related to an investment made in 2014 to penetrate certain market verticals under a one-year arrangement, which ended at March 31, 2015. Our worldwide headcount was 166 employees as of December 31, 2016, compared with 226 employees as of December 31, 2015. We will continue to evaluate the appropriate headcount levels to properly align our resources with our current and long-term outlook and to take actions in areas of the Company that may be underperforming.

## Revenue

	Year ended December 31,	
	2016	2015
Revenue:		
Product revenue	\$ 10,116,897	\$ 24,847,724
Support and services revenue	20,146,449	23,723,267
Total Revenue	\$ 30,263,346	\$ 48,570,991
Year-over-year percentage change		
Product revenue	(59)%	40%
Support and services revenue	(15)%	(17)%
Total percentage change	(38)%	5%

## Product revenue

Product revenue is comprised of sales of both licenses for our software solutions and sales of the platforms on which the software is installed. This includes stand-alone software applications and software integrated with industry standard hardware, sold as one complete integrated solution or sold on a subscription or consumption basis. The products are sold through our OEMs, and through (i) value-added resellers, (ii) distributors, and/or (iii) directly to end-users (collectively "non-OEMs"). These revenues are recognized when all the applicable criteria under accounting principles generally accepted in the United States are met.

Product revenue decreased 59% from \$24.8 million for the year ended December 31, 2015 to \$10.1 million for the year ended December 31, 2016, primarily due to a total of \$11.3 million of product revenue recognized during 2015 related to our joint development agreement which did not repeat in 2016. Excluding product revenue from the joint development agreement, product revenue for the year ended December 31, 2016 decreased 25% to \$10.1 million, compared with \$13.6 million for the year ended December 31, 2015. Product revenue represented 33% and 51% of our total revenue for the years ended December 31, 2016 and 2015, respectively.

Excluding the joint development agreement revenue, product revenue from our OEM partners increased \$0.2 million, while product revenue from non-OEM partners decreased \$3.4 million for the year ended December 31, 2016, compared with the same period in 2015. The decline in product revenue from our non-OEM channel was primarily due to, (i) challenges in obtaining new customers, (ii) a decrease in the volume of sales from our legacy product line(s), and (iii) the mix of deals where revenue is recognized ratably over the term of the associated maintenance agreement, rather than upon transaction completion and product delivery. Product revenue from our non-OEM partners represented 72% and 44% of our total product revenue for the years ended December 31, 2016 and 2015, respectively. Product revenue from our OEM partners represented 28% and 56% of our total product revenue for the years ended December 31, 2016 and 2015, respectively. Excluding the joint development agreement product revenue, our non-OEM partners and OEM partners represented 80% and 20%, respectively, of our total product revenue for the year ended December 31, 2015.

We continue to invest in our product portfolio by refreshing and updating our existing product lines and developing our next generation of innovative product offerings to drive our sales volume in support of our long-term outlook.

## Support and services revenue

Support and services revenue is comprised of revenue from (i) maintenance and technical support services, (ii) professional services primarily related to the implementation of our software, and (iii) engineering services. Revenue derived from maintenance and technical support contracts are deferred and recognized ratably over the contractual maintenance term. Professional services revenue is recognized in the period that the related services are performed or over the contractual term if vendor-specific objective evidence ("VSOE") does not exist for all undelivered elements.

Engineering services are recognized upon customer acceptance or over the remaining contract term if VSOE does not exist for the remaining deliverables upon acceptance. Support and services revenue decreased 15% from \$23.7 million for the year ended December 31, 2015 to \$20.1 million for the year ended December 31, 2016. The decrease in support and services revenue was attributable to decreases in both maintenance and technical support services revenue and professional services revenue.

Maintenance and technical support services revenue decreased from \$22.7 million for the year ended December 31, 2015 to \$19.4 million for the same period in 2016. Our maintenance and technical support service revenue results primarily from (i) the purchase of maintenance and support contracts by our customers, and (ii) the renewal of maintenance and support contracts by our existing and new customers after their initial contracts expire. During the year ended December 31, 2016, the decline in maintenance and technical support services revenue was primarily attributable to a decrease of \$3.6 million in maintenance revenue from our non-OEM partners primarily driven by the overall decline in product license sales over the past twelve to twenty-four months. Additionally, the conversion of existing customers using our legacy products to our FreeStor subscription product has resulted and will continue to result in a shift of revenue from maintenance and technical support services revenue to product revenue. Maintenance revenue from our OEM partners increased \$0.4 million for the year ended December 31, 2016 as compared with the same period in 2015.

Professional services revenue decreased from \$1.0 million for the year ended December 31, 2015 to \$0.7 million for the year ended December 31, 2016. Professional services revenue varies from period to period based upon (i) the number of solutions sold during the existing and previous periods, (ii) the number of customers who elect to purchase professional services, (iii) the number of professional services contracts that are performed during the period, and (iv) the number of customers who elect to purchase engineering services and the timing of acceptance from the customer. We expect professional services revenue to continue to vary from period to period based upon the number of customers who elect to utilize our professional services upon purchasing any of our solutions.

#### Cost of revenue

	Year ended December 31,	
	2016	2015
Cost of revenue:		
Product	\$932,446	\$1,942,985
Support and service	7,351,857	7,739,149
Total cost of revenue	\$8,284,303	\$9,682,134
Total Gross Profit	\$21,979,043	\$38,888,857
Gross Margin:		
Product	91%	92%
Support and service	64%	67%
Total gross margin	73%	80%

#### Cost of revenue, gross profit and gross margin

Cost of product revenue consists primarily of industry standard hardware we purchase and integrate with our software for turn-key integrated solutions, personnel costs, amortization of capitalized software and shipping and logistics costs. Cost of support and service consists primarily of personnel and other costs associated with providing software implementations, technical support under maintenance contracts and training.

Cost of product revenue for the year ended December 31, 2016 decreased \$1.0 million, or 52%, to \$0.9 million, compared with \$1.9 million for the same period in 2015. Product gross margin decreased to 91% for the year ended December 31, 2016, compared with 92% for the same period in 2015. The decrease in product gross margin was primarily attributable to the product revenue recorded in 2015 related to our joint development agreement. Excluding the joint development agreement revenue, product gross margin increased to 91% from 86% for the years ended December 31, 2016 and 2015, respectively. The increase in product gross margin was primarily attributable to an increase in the percentage of our product revenue from sales of our stand-alone software applications, which have higher gross margins than sales of our fully integrated solutions with hardware appliances, compared with the same period in 2015. Our FreeStor product is a subscription-based product offering and is primarily sold as a software only solution, which we anticipate will continue to drive higher product gross margins in the future. Our cost of support

and service revenue for the year ended December 31, 2016 decreased \$0.4 million, or 5%, to \$7.4 million, compared with \$7.7 million for the same period in 2015. Support and service gross margin decreased to 64% for the year ended December 31, 2016 from 67% for the same period in 2015. The decrease in support and service gross margin was primarily attributable to the decrease in our support and services revenues.

Total gross profit decreased \$16.9 million, or 43%, from \$38.9 million for the year ended December 31, 2015, to \$22.0 million for the year ended December 31, 2016. Total gross margin decreased to 73% for the year ended December 31, 2016, compared with 80% for the year ended December 31, 2015. Total gross margin excluding the joint development agreement revenue was 73% and 74% for the years ended December 31, 2016 and 2015, respectively. The slight decrease in our total gross margin, excluding the joint development agreement revenue, was primarily due to the mix of sales. Generally, our total gross profits and total gross margins fluctuate based on several factors, including (i) revenue growth levels, (ii) changes in personnel headcount and related costs, and (iii) our product offerings and mix of sales.

There was no share-based compensation expense included in cost of product revenue for each of the years ended December 31, 2016 and 2015. Share-based compensation expense included in cost of support and service revenue was \$0.1 million for each of the years ended December 31, 2016 and 2015.

## Operating Expenses

### Research and Development Costs

Research and development costs consist primarily of personnel costs for product development personnel, share-based compensation expense, and other related costs associated with the development of new products, enhancements to existing products, quality assurance and testing. Research and development costs decreased \$1.1 million, or 8%, to \$11.7 million for the year ended December 31, 2016, from \$12.8 million in 2015. The decrease in research and development costs was primarily related to a decrease in personnel related costs, as we continue to allocate the appropriate level of resources based upon the product development roadmap schedule. This was partially offset by an increase of \$0.5 million associated with our exclusive source code license and development agreement, for which we recognized \$2.0 million for the year ended December 31, 2016 compared with \$1.5 million in the comparable 2015 period. We believe we continue to provide adequate levels of resources in support of our research and development activities to continue to enhance and to test our core products and in the development of new innovative products, features and options. Share-based compensation expense included in research and development costs increased to \$1.7 million from \$0.8 million for the years ended December 31, 2016 and December 31, 2015, respectively. Included in share-based compensation expense for the years ended December 31, 2016 and 2015, was \$1.5 million and \$0.5 million, respectively, related to costs associated with our exclusive source code license and distribution agreement which were paid through the issuance of our common stock.

### Selling and Marketing

Selling and marketing expenses consist primarily of sales and marketing personnel and related costs, share-based compensation expense, travel, public relations expense, marketing literature and promotions, commissions, trade show expenses, and the costs associated with our foreign sales offices. Selling and marketing expenses decreased \$4.1 million, or 23%, to \$13.9 million for the year ended December 31, 2016, from \$18.0 million for the year ended December 31, 2015. The decrease in selling and marketing expenses was primarily attributable to a decrease in personnel related costs, including commission expense as a result of decreased bookings for the year ended December 31, 2016 compared with the same period in 2015, as well as a decrease in our sales and marketing headcount and rent expense as we continue to define our optimized go-to-market coverage models around the world. In addition, the decrease is attributable to a decrease in professional fees of \$0.8 million primarily related to an investment made in 2014 to penetrate certain market verticals under a one-year arrangement, which ended at March 31, 2015. Share-based compensation expense included in selling and marketing expenses was \$0.2 million and \$0.3 million for the years ended December 31, 2016 and December 31, 2015, respectively.

### General and Administrative

General and administrative expenses consist primarily of personnel costs of general and administrative functions, share-based compensation expense, public company related costs, directors and officers insurance, legal and professional fees and other general corporate overhead costs. General and administrative expenses decreased \$2.7 million, or 30%, to \$6.5 million for the year ended December 31, 2016, from \$9.2 million for the year ended December 31, 2015. The decrease in general and administrative expenses was primarily attributable to us continuing to optimize personnel costs, professional fees and other various general and administrative costs within the Company as well as \$0.5 million of termination costs incurred by the Company during 2015 due to the termination of a contract with an internet communication provider which did not repeat during 2016. Share-based compensation expense included in general and administrative expenses was \$0.4 million and \$0.7 million for the years ended December 31, 2016 and 2015, respectively.



### Investigation, Litigation and Settlement Related Costs

During the year ended December 31, 2016, we had no investigation, litigation, and settlement related costs. During the year ended December 31, 2015, our investigation, litigation, and settlement related costs totaled less than \$0.1 million.

### Restructuring costs

In the third quarter of 2013, we adopted a restructuring plan intended to better align our cost structure with the skills and resources required to more effectively execute our long-term growth strategy and to support revenue levels we expect to achieve on a go forward basis (the "2013 Plan"). In connection with the 2013 Plan, we eliminated over 100 positions worldwide, implemented tighter expense controls, ceased non-core activities and closed or downsized several facilities. Restructuring costs incurred during both the years ended December 31, 2016 and 2015, under the 2013 Plan, were \$0.2 million. For further information, refer to Note (15) Restructuring Costs, to our consolidated financial statements.

### Interest and Other Loss, Net

We invest our cash primarily in money market funds, commercial paper, government securities, and corporate bonds. As of December 31, 2016, our cash, cash equivalents, and marketable securities totaled \$3.4 million, compared with \$13.4 million as of December 31, 2015. Interest and other loss decreased \$0.2 million to a loss of \$0.1 million for the year ended December 31, 2016, compared with a loss of \$0.3 million for 2015. Interest and other loss was comprised of losses on our embedded derivatives of \$0.3 million, foreign currency losses of less than \$0.1 million, partly offset by sublease income of \$0.1 million for the year ended December 31, 2016, compared with foreign currency losses of \$0.4 million, partly offset by interest income, gains on our embedded derivatives and sublease income totaling \$0.1 million for the year ended December 31, 2015.

### Income Taxes

Our provision for income taxes consists of federal, state and local, and foreign income taxes. For the year ended December 31, 2016, we recorded an income tax provision of \$0.6 million, consisting primarily of state and local and foreign income taxes, inclusive of a tax provision of \$0.1 million as a result of a change in estimate with respect to the realizability of our AMT credits. For the year ended December 31, 2015, we recorded an income tax provision of \$0.4 million, consisting primarily of state and local and foreign income taxes and is inclusive of a tax benefit of \$0.2 million related to certain AMT tax credits that became realizable on a more-likely-than-not basis as a result of recent federal tax legislation enacted in December 2015. During 2015, the Company considered the impact of new legislation regarding potential refunds of its AMT tax credits and determined that there is sufficient positive evidence to conclude that it is more-likely-than-not that AMT credits of \$0.2 million are realizable which resulted in a reduction to the valuation allowance and a benefit to income tax expense. During 2016, we revised our estimate of potential refundable AMT credits and recorded an income tax provision of \$0.1 million. We determined our other net domestic deferred tax assets are not realizable on a more-likely-than-not basis.

## LIQUIDITY AND CAPITAL RESOURCES

### Principal Sources of Liquidity

Our principal sources of liquidity are our cash, cash equivalents, and marketable securities balances generated from operating, investing and financing activities. Our cash, cash equivalents and marketable securities balance as of December 31, 2016 totaled \$3.4 million, compared with \$13.4 million as of December 31, 2015. Cash and cash equivalents totaled \$3.4 million at December 31, 2016. Cash and cash equivalents totaled \$6.0 million and marketable securities totaled \$7.4 million at December 31, 2015.



## Going Concern

We have incurred significant operating losses in the previous eight years and negative cash flow from operations in five of the previous eight years. We currently have a working capital deficiency of \$10.5 million, which is inclusive of current deferred revenue of \$15.2 million, and a stockholders' deficit of \$21.7 million. During the year ended December 31, 2016, we incurred a net loss of \$11.0 million and negative cash flow from operations of \$9.4 million. Our total cash balance at December 31, 2016 is \$3.4 million, a decrease of \$10.0 million as compared to December 31, 2015. In addition to these financial metrics, as of December 31, 2016, we were not in compliance with the financial covenants of the Series A redeemable convertible preferred stock, which are mutually agreed to annually, for two consecutive quarters. This breach provides the Series A redeemable convertible preferred stockholders with the right to require us to redeem any of the Series A redeemable convertible preferred stock at the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price of our common stock as of December 31, 2016. To date, the holders of the Series A redeemable convertible preferred stock have neither exercised nor waived this right and accordingly this right may be exercised at any time. In addition, the holders of the Series A redeemable convertible preferred stock have the right to request a redemption of the Series A redeemable convertible preferred stock on or after August 5, 2017. If the holders request that the Series A redeemable convertible preferred stock be redeemed, we may not have sufficient liquidity to undertake the redemption. If we do not redeem the Series A redeemable convertible preferred stock, the holders of the Series A redeemable convertible preferred stock can pursue other remedies. Refer to Note (8) Series A Redeemable Convertible Preferred Stock to our consolidated financial statements for further discussion regarding these other remedies. Our reduced cash balance and history of losses both in and of itself, and in combination with the redemption rights of the holders of the Series A redeemable convertible preferred stock, raise substantial doubt about our ability to continue as a going concern within one year after March 10, 2017 (the date that these financial statements were issued). Accordingly, the financial statements as of December 31, 2016, included in this Annual Report on Form 10-K were prepared under the assumption that we will continue as a going concern for the next twelve months.

Our ability to continue as a going concern, including in the event of a redemption request by the holder, depends on our ability to execute our business plan, increase revenue and billings and reduce expenditures. During 2016, we continued to focus on aligning our expense structure with revenue expectations which included tighter expense controls and overall operational efficiencies which better align our current business plan on a run-rate basis. These efficiencies include among other items, stream-lined personnel related costs and global overhead costs and efficiencies realized on our redesigned go-to-market coverage models. We have reduced our worldwide headcount to 166 employees as of December 31, 2016, compared with 226 employees as of December 31, 2015. However, the decline in revenue over the last twelve months combined with the separation costs related to the headcount reductions have reduced the impact of these reductions in operating expenses, thereby not achieving the expected reduction of quarterly cash burn rate.

There is no assurance that we will be successful in generating sufficient revenue or continuing to reduce operating costs. In addition, to the extent that we continue to incur losses, we may need to seek additional financing and there can be no assurance that we will be able to obtain financing or that such financing will be on favorable terms. Any such financing could be dilutive to our shareholders. Failure to generate sufficient revenue, billings, control or reduce expenditures and/or the inability to obtain financing will result in an inability of us to continue as a going concern.

## Cash Flow Analysis

Cash flow information is as follows:

	Years Ended December 31,	
	2016	2015

Cash (used in) provided by:

Operating activities	\$ (9,423,496)	\$ (6,323,483)
Investing activities	7,133,126	2,423,907
Financing activities	—	(456,306 )
Effect of exchange rate changes	(331,484 )	(504,627 )
Net decrease in cash and cash equivalents	\$ (2,621,854)	\$ (4,860,509)

Net cash used in operating activities totaled \$9.4 million and \$6.3 million for the years ended December 31, 2016 and 2015, respectively. The changes in net cash used in operating activities for each of the years ended December 31, 2016 and 2015, was primarily due to our net loss and adjustments for net changes in operating assets and liabilities, primarily changes in our accounts receivable, deferred revenue, prepaid expenses, inventory, other assets, accounts payable, accrued expenses and other long-term liabilities contributed to the decrease.

Net cash provided by investing activities totaled \$7.1 million and \$2.4 million for the years ended December 31, 2016 and 2015, respectively. Included in investing activities for each year are the sales and purchases of our marketable securities, purchases of property and equipment, capitalized software development costs, cash received for security deposits and purchases of intangible assets. Net sales of our marketable securities for the years ended December 31, 2016 and 2015, were \$7.4 million and \$3.4 million, respectively. Purchases of property and equipment for the years ended December 31, 2016 and 2015, totaled \$0.3 million and \$0.8 million, respectively.

There were no financing activity cash flows during the year ended December 31, 2016. Net cash used in financing activities totaled \$0.5 million for the year ended December 31, 2015. During 2015, we repurchased shares of our common stock at an aggregate cost of \$0.1 million and paid cash dividends to holders of our Series A redeemable convertible preferred stock of \$0.4 million.

Total cash, cash equivalents and marketable securities decreased \$10.0 million at December 31, 2016 compared with December 31, 2015 mainly attributable to cash used in operating activities of \$9.4 million during the year ended December 31, 2016.

#### Contractual Obligations

We currently do not have any debt and our significant commitments are related to (i) our employment agreement with Gary Quinn, our President and Chief Executive Officer, (ii) our office leases, (iii) dividends on our Series A redeemable convertible preferred stock, (iv) the potential redemption of the Series A redeemable convertible preferred stock as discussed above, and (v) the potential issuance of up to 1.35 million shares of restricted Company common stock which vest based on certain milestone achievements and/or transactions over a twelve month period in accordance with an Independent Marketing Agreement with RFN Prime Marketing Inc.

Upon certain triggering events, such as bankruptcy, insolvency or a material adverse effect, failure to achieve minimum financial covenants or failure of the Company to issue shares upon conversion of the Series A redeemable convertible preferred stock in accordance with its obligations, the Series A redeemable convertible preferred stockholders may require us to redeem all or some of the Series A redeemable convertible preferred stock at a price equal to the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price as of the occurrence of the triggering event. On or after August 5, 2017, each Series A redeemable convertible preferred stockholder can require us to redeem its Series A redeemable convertible preferred stock in cash at a price equal to 100% of the stated value being redeemed plus accrued and unpaid dividends. As of December 31, 2016, we were not in compliance with the financial covenants of the Series A redeemable convertible preferred stock for two consecutive quarters, which provided the Series A redeemable convertible preferred stockholders the right to require us to redeem any of the Series A redeemable convertible preferred stock at the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price of our common stock as of December 31, 2016. To date, the holders of the Series A redeemable convertible preferred stock have neither exercised nor waived this right and accordingly this right may be exercised at any time. As of December 31, 2016, the Company did not fail any non-financial covenants related to the Company's Series A redeemable convertible preferred stock.

Holders of the Series A redeemable convertible preferred stock are entitled to receive quarterly dividends at the Prime Rate (Wall Street Journal Eastern Edition) plus 5% (up to a maximum amount of 10%), payable in cash, provided, that if we will not have at least \$1.0 million in positive cash flow for any calendar quarter after giving effect to the payment of such dividends, we, at our election, can pay such dividends in whole or in part in cash, provided that cash flow from operations is not negative, and the remainder can be accrued or paid in common stock to the extent certain equity conditions are satisfied. During 2016, we issued 624,009 shares of our common stock as payment for the fourth quarter 2015 and the first three quarters of 2016 dividends. As of December 31, 2016, due to the lack of sufficient surplus to pay dividends as required by the Delaware General Business Corporation Law, we were not permitted to pay the fourth quarter dividend in cash or through the issuance of our common stock and accrued the fourth quarter 2016 dividend. As of December 31, 2016, our liability for dividends to the holders of the Series A redeemable convertible preferred stock totaled \$195,904.

We have an operating lease covering our corporate office facility that expires in April 2021. We also have several operating leases related to offices in both the United States and foreign countries. The expiration dates for these leases range from 2016 through 2018. The following is a schedule of future minimum lease payments for all operating leases as of December 31, 2016:

2017	\$1,655,155
2018	1,398,354
2019	1,402,181
2020	1,444,247
2021	491,020
Thereafter—	
	\$6,390,957

In addition, as of December 31, 2016, our liability for uncertain tax positions totaled \$0.3 million. Due to the uncertainty relating to the timing of future payments, such amounts are not presented in the above schedule.

#### Off-Balance Sheet Arrangements

As of December 31, 2016 and 2015, we had no off-balance sheet arrangements.

#### Critical Accounting Policies and Estimates

Our critical accounting policies and estimates are those related to revenue recognition, accounts receivable allowances, deferred income taxes, accounting for share-based payments, goodwill and other intangible assets, software development costs, fair value measurements and litigation.

**Revenue Recognition.** As discussed further in Note (1) Summary of Significant Accounting Policies, to our consolidated financial statements, we recognize revenue in accordance with the authoritative guidance issued by the FASB on revenue recognition. We recognize revenue when persuasive evidence of an arrangement exists, the fee is fixed or determinable, delivery has occurred, and collection of the resulting receivable is deemed probable. Products delivered to a customer on a trial basis are not recognized as revenue until the trial period has ended and acceptance has occurred by the customer. Reseller and distributor customers typically send us a purchase order when they have an end user identified. For bundled arrangements that include either maintenance or both maintenance and professional services, we use the residual method to determine the amount of product revenue to be recognized. Under the residual method, consideration is allocated to the undelivered elements based upon VSOE of the fair value of those elements, with the residual of the arrangement fee allocated to and recognized as product revenue. If VSOE does not exist for all undelivered elements of an arrangement, we recognize total revenue from the arrangement ratably over the term of the maintenance agreement. Our long-term portion of deferred revenue consists of (i) payments received for maintenance contracts with terms in excess of one year as of the balance sheet date, and (ii) payments received for product sales bundled with multiple years of maintenance but for which VSOE did not exist for all undelivered elements of the arrangement. We provide an allowance for product returns as a reduction of revenue, based upon historical experience and known or expected trends.

When more than one element, such as hardware, software and services are contained in a single arrangement, we will first allocate revenue based upon the relative selling price into two categories: (1) non-software components, such as hardware and any hardware-related items, as required system software that functions with the hardware to deliver the essential functionality of the hardware and related post-contract customer support, and software as service subscriptions and (2) software components and applications, such as post-contract customer support and other services. We will then allocate revenue within the non-software category to each element based upon their relative selling price using a hierarchy of VSOE, third-party evidence of selling price (“TPE”) or estimated selling prices (“ESP”),

if VSOE or TPE does not exist. We will allocate revenue within the software category to the undelivered elements based upon their fair value using VSOE with the residual revenue allocated to the delivered elements. If we cannot objectively determine the VSOE of the fair value of any undelivered software element, we will defer revenue for all software components until all elements are delivered and services have been performed, until fair value can objectively be determined for any remaining undelivered elements, or until software maintenance is the only undelivered element which we do not have VSOE for, in which case revenue is recognized over the maintenance term for all software elements.

Revenues associated with maintenance services are deferred and recognized as revenue ratably over the term of the contract. Revenues associated with software implementation and software engineering services are recognized when the services are performed and customer acceptance is received. Costs of providing these services are included in cost of support and services.



We have entered into various distribution, licensing and joint promotion agreements with OEMs, whereby we have provided to the OEM a non-exclusive software license to install our software on certain hardware or to resell our software in exchange for payments based on the products distributed by these OEMs. Such payments from the OEM or distributor are recognized as revenue in the period reported by the OEM.

From time to time we will enter into funded software development arrangements. Under such arrangements, revenue recognition will not commence until final delivery and/or acceptance of the product. For arrangements where we have VSOE for the undelivered elements, the Company will follow the residual method and recognize product revenue upon final delivery and/or acceptance of the product. For arrangements where we do not have VSOE for the undelivered elements, we will recognize the entire arrangement fee ratably commencing at the time of final delivery and/or acceptance through the end of the service period in the arrangement. Certain arrangements, for which VSOE of fair value for the undelivered maintenance elements cannot be established, are accounted for as a single unit of account. The revenue recognized from single units of accounting are typically allocated and classified on the consolidated statements of operations as product revenue and support and services revenue. Since VSOE cannot be established, VSOE of similar maintenance offerings provides the basis for the support and services revenue classification, and the remaining residual consideration provides the basis for the product revenue classification.

In 2013, we entered into a joint development agreement whereby final acceptance of the software delivered under the joint development agreement occurred on November 16, 2014. During 2014, we began to recognize the total committed fee as revenue ratably over a twenty-five and a half month period which began on November 16, 2014 and included a contractual twenty-four month maintenance period. During 2015, the customer elected to terminate its maintenance agreement and as such all unrecognized deferred revenue was accelerated and recognized as product revenue during 2015. During the years ended December 31, 2016 and 2015, we recorded no product revenue and product revenue of approximately \$11.3 million, respectively, related to this agreement.

**Accounts Receivable.** We review accounts receivable to determine which receivables are doubtful of collection. In making the determination of the appropriate allowance for uncollectible accounts and returns, we consider (i) historical return rates, (ii) specific past due accounts, (iii) analysis of our accounts receivable aging, (iv) customer payment terms, (v) historical collections, write-offs and returns, (vi) changes in customer demand and relationships, (vii) actual cash collections on our accounts receivables and (viii) concentrations of credit risk and customer credit worthiness. When determining the appropriate allowance for uncollectible accounts and returns each period, the actual customer collections of outstanding account receivable balances impact the required allowance for returns. We recorded an expense of \$0.1 million and a benefit of less than \$0.1 million for the years ended December 31, 2016 and 2015, respectively. These amounts are included within our consolidated statement of operations in each respective year. Changes in the product return rates, credit worthiness of customers, general economic conditions and other factors may impact the level of future write-offs, revenue and our general and administrative expenses.

**Income Taxes.** As discussed further in Note (6) Income Taxes, to our consolidated financial statements, in accordance with the authoritative guidance issued by the FASB on income taxes, we regularly evaluate our ability to recover deferred tax assets, and report such deferred tax assets at the amount that is determined to be more-likely-than-not recoverable. The Company records income taxes under the asset and liability method. Deferred tax assets and liabilities are recognized for future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be realized or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. In determining the period in which related tax benefits are realized for financial reporting purposes, excess share-based compensation deductions included in net operating losses are realized after regular net operating losses are exhausted.

We account for uncertain tax positions in accordance with the authoritative guidance issued by the FASB on income taxes, which addresses the determination of whether tax benefits claimed or expected to be claimed on a tax return, should be recorded in the financial statements. Pursuant to the authoritative guidance, we may recognize the tax benefit from an uncertain tax position only if it meets the “more likely than not” threshold that the position will be sustained on examination by the taxing authority, based on the technical merits of the position or under statute expirations. The tax benefits recognized in the financial statements from such a position should be measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. In addition, the authoritative guidance addresses de-recognition, classification, interest and penalties on income taxes, accounting in interim periods, and also requires increased disclosures.

Accounting for Share-Based Payments. As discussed further in Note (10) Share-Based Payment Arrangements, to our consolidated financial statements, we account for share-based awards in accordance with the authoritative guidance issued by the FASB on stock compensation.

We have used and expect to continue to use the Black-Scholes option-pricing model to compute the estimated fair value of share-based compensation expense. We have used the Monte Carlo simulation model to compute the estimated fair value of share-based compensation expense for awards with a market condition. The Black-Scholes option-pricing model includes assumptions regarding dividend yields, expected volatility, expected option term and risk-free interest rates. The Monte Carlo simulation model includes assumptions regarding expected volatility, expected option term and risk-free interest rates. The assumptions used in computing the fair value of share-based compensation expense reflect our best estimates, but involve uncertainties relating to market and other conditions, many of which are outside of our control. We estimate expected volatility based primarily on historical daily price changes of our stock and other factors. The expected option term is the number of years that we estimate that the stock options will be outstanding prior to exercise. The estimated expected term of the stock awards issued has been determined pursuant to SEC Staff Accounting Bulletin SAB No. 110. Additionally, we estimate forfeiture rates based primarily upon historical experience, adjusted when appropriate for known events or expected trends. We may adjust share-based compensation expense on a quarterly basis for changes to our estimate of expected equity award forfeitures based on our review of these events and trends and recognize the effect of adjusting the forfeiture rate for all expense amortization in the period in which we revised the forfeiture estimate. If other assumptions or estimates had been used, the share-based compensation expense that was recorded for the years ended December 31, 2016 and 2015 could have been materially different. Furthermore, if different assumptions or estimates are used in future periods, share-based compensation expense could be materially impacted in the future.

Goodwill. As discussed further in Note (1) Summary of Significant Accounting Policies, to our consolidated financial statements, we account for goodwill and other intangible assets in accordance with the authoritative guidance issued by the FASB on goodwill and other intangibles. The authoritative guidance requires an impairment-only approach to accounting for goodwill and other intangibles with an indefinite life. Absent any prior indicators of impairment, we perform an annual impairment analysis during the fourth quarter of each of our fiscal years.

As of both December 31, 2016 and 2015, we had \$4.2 million of goodwill. As of both December 31, 2016 and 2015, we had \$0.2 million and \$0.3 million (net of accumulated amortization), respectively, of other identifiable intangible assets. We do not amortize goodwill, but we assess for impairment at least annually and more often if a trigger event occurs. We assess qualitative factors for our reporting unit. If the qualitative assessment results in a conclusion that it is more likely than not that the fair value of a reporting unit exceeds the carrying value, then no further testing is performed. When the qualitative assessment is not used, or if the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then the impairment analysis for goodwill is performed using a two-step approach based on an evaluation of the reporting unit. The first step involves a comparison of a reporting unit's fair value to its carrying value. In the second step, if the reporting unit's carrying value exceeds its fair value, we compare the goodwill's implied fair value and its carrying value. If the goodwill's carrying value exceeds its implied fair value, we recognize an impairment loss in an amount equal to such excess.

The Company's annual impairment assessment is performed at December 31st of each year, and the Company has determined there to be no impairment for any of the periods presented. Based on the Company's analysis, the fair value of its reporting unit substantially exceeds the carrying value of its goodwill balances as of December 31, 2016 and 2015. As part of the goodwill impairment test performed at December 31, 2016, the Company determined it was more likely than not that a goodwill impairment exists and the Company proceeded to step two of the goodwill impairment test. The Company engaged a third-party valuation firm to determine the fair value of all long-lived assets other than goodwill and determine the residual goodwill value of the reporting unit. This goodwill impairment test indicated that the fair value of goodwill value exceeded its carrying value by \$15.8 million. The Company used multiple valuation techniques, the income and market approaches, and weighted the results to calculate the fair value of its goodwill as of December 31, 2016. Changes in the assumptions used in the goodwill valuation could materially impact the fair value estimates. Significant assumptions to the goodwill fair value estimate include; projected future financial statement results for the Company, discount rate and projected long-term growth rates.

Software Development Costs. As discussed further in Note (1) Summary of Significant Accounting Policies, to our consolidated financial statements, we account for software development costs in accordance with the authoritative guidance issued by the FASB on costs of software to be sold, leased or marketed.

As of December 31, 2016 and 2015, we had \$0.5 million and \$1.1 million, respectively, of software development costs, net of amortization. The authoritative guidance requires that the costs associated with the development of new software products and enhancements to existing software products be expensed as incurred until technological feasibility of the product has been established. Once technological feasibility is established, all software costs are capitalized until the product is available for general release to customers. Judgment is required in determining when technological feasibility of a product is established and assumptions are used that reflect our best estimates. If other assumptions had been used in the current period to estimate technological feasibility, the reported product development and enhancement expense could have been affected. Annual amortization of capitalized software costs is the greater of the amount computed using the ratio that current gross revenue for a product bear to the total of current and anticipated future gross revenue for that product or the straight-line method over the remaining estimated economic life of the software product, generally estimated to be five years from the date the product became available for general release to customers. Software development costs are reported at the lower of amortized cost or net realizable value. Net realizable value is computed as the estimated gross future revenue from each software solution less the amount of estimated future costs of completing and disposing of that product. Because the development of projected net future revenue related to our software solutions used in our net realizable value computation is based on estimates, a significant reduction in our future revenue could impact the recovery of our capitalized software development costs.

**Fair Value Measurement.** As discussed further in Note (3) Fair Value Measurements, to our consolidated financial statements, we determine fair value measurements of both financial and nonfinancial assets and liabilities in accordance with the authoritative guidance issued by the FASB on fair value measurements and disclosures. The FASB authoritative guidance establishes three levels of inputs that may be used to measure fair value. Each level of input has different levels of subjectivity and difficulty involved in determining fair value.

Level 1—Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2—Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3—Valuations based on unobservable inputs reflecting our own assumptions, consistent with reasonably available assumptions made by other market participants. These valuations require significant judgment.

#### Other-Than-Temporary Impairment

After determining the fair value of our available-for-sale debt instruments, gains or losses on these investments are recorded to other comprehensive income, until either the investment is sold or we determine that the decline in value is other-than-temporary. Determining whether the decline in fair value is other-than-temporary requires management judgment based on the specific facts and circumstances of each investment. For investments in debt instruments, these judgments primarily consider the financial condition and liquidity of the issuer, the issuer's credit rating, and any specific events that may cause us to believe that the debt instrument will not mature and be paid in full; and our ability and intent to hold the investment to maturity.

**Litigation.** As discussed further in Note (14) Litigation, to our consolidated financial statements, in accordance with the authoritative guidance issued by the FASB on contingencies, we accrue anticipated costs of settlement, damages and losses for claims to the extent specific losses are probable and estimable. We record a receivable for insurance recoveries when such amounts are probable and collectable. In such cases, there may be an exposure to loss in excess of any amounts accrued. If, at the time of evaluation, the loss contingency related to a litigation is not both probable and estimable, the matter will continue to be monitored for further developments that would make such loss contingency both probable and estimable and, we will expense these costs as incurred. If the estimate of a probable

loss is a range and no amount within the range is more likely, we will accrue the minimum amount of the range.

Impact of Recently Issued Accounting Pronouncements

See Item 8 of Part II, Consolidated Financial Statements – Note (1) Summary of Significant Accounting Policies – Recently Issued Accounting Pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Foreign Currency Risk. We have several offices outside the United States. Accordingly, we are subject to exposure from adverse movements in foreign currency exchange rates. For the years ended December 31, 2016 and 2015, approximately 71%, and 52%, respectively, of our sales were from outside North America. Not all of these transactions were made in foreign currencies. Our primary exposure is to fluctuations in exchange rates for the U.S. Dollar versus the Euro and the Japanese Yen, and to a lesser extent the Canadian Dollar and the British Pound. Changes in exchange rates in the functional currency for each geographic area's revenues are primarily offset by the related expenses associated with such revenues. However, changes in exchange rates of a particular currency could impact the re-measurement of such balances on our balance sheets.

If foreign currency exchange rates were to change adversely by 10% from the levels at December 31, 2016, the effect on our results before taxes from foreign currency fluctuations on our balance sheet would be approximately \$1.4 million. The above analysis disregards the possibility that rates for different foreign currencies can move in opposite directions and that losses from one currency may be offset by gains from another currency.

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

Board of Directors and Stockholders  
FalconStor Software, Inc.  
Melville, New York

We have audited the accompanying consolidated balance sheets of FalconStor Software, Inc. and subsidiaries as of December 31, 2016 and 2015 and the related consolidated statements of operations, comprehensive loss, stockholders' deficit, and cash flows for the two years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. According, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of FalconStor Software, Inc. and subsidiaries at December 31, 2016 and 2015, and the consolidated results of their operations and their cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As more fully described in Note 1, the Company has incurred recurring losses from operations and has a significant working capital deficiency that raise substantial doubt about the Company's ability to continue as a going concern. Further, the Company is in default of the Series A Redeemable Convertible Preferred Stock agreement so that the holders have the right to request redemption. Management's plans in regard to these matters are described in Note 1. These consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ BDO USA, LLP

Melville, New York  
March 10, 2017



FALCONSTOR SOFTWARE, INC. AND SUBSIDIARIES  
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2016	2015
Assets		
Current assets:		
Cash and cash equivalents	\$3,391,528	\$6,013,382
Marketable securities	—	7,420,042
Accounts receivable, net of allowances of \$260,676 and \$191,285, respectively	5,003,972	6,635,262
Prepaid expenses and other current assets	1,245,085	1,742,668
Inventory	6,181	70,534
Deferred tax assets, net	—	205,816
Total current assets	9,646,766	22,087,704
Property and equipment, net of accumulated depreciation of \$18,580,547 and \$17,947,675, respectively	1,174,942	1,565,932
Deferred tax assets, net	577,735	110,060
Software development costs, net	547,558	1,116,816
Other assets	973,949	1,139,377
Goodwill	4,150,339	4,150,339
Other intangible assets, net	209,456	256,137
Total assets	\$17,280,745	\$30,426,365
Liabilities and Stockholders' Deficit		
Current liabilities:		
Accounts payable	\$419,877	\$1,005,944
Accrued expenses	4,471,010	6,783,514
Deferred tax liabilities, net	—	89,343
Deferred revenue, net	15,236,123	16,553,519
Total current liabilities	20,127,010	24,432,320
Other long-term liabilities	1,170,844	735,089
Deferred tax liabilities, net	254,776	27,069
Deferred revenue, net	8,430,692	9,122,289
Total liabilities	29,983,322	34,316,767
Commitments and contingencies (Note 12)		
Series A redeemable convertible preferred stock, \$.001 par value, 2,000,000 shares authorized, 900,000 shares issued and outstanding, redemption value of \$9,000,000	9,000,000	7,818,554
Stockholders' equity:		
Common stock - \$.001 par value, 100,000,000 shares authorized, 59,482,989 and 57,194,817 shares issued, respectively and 43,954,919 and 41,666,747 shares outstanding, respectively	59,483	57,195
Additional paid-in capital	169,091,255	167,953,871
Accumulated deficit	(131,982,685)	(120,983,891)
Common stock held in treasury, at cost (15,528,070 and 15,528,070 shares, respectively)	(57,032,917 )	(57,032,917 )
Accumulated other comprehensive loss, net	(1,837,713 )	(1,703,214 )
Total stockholders' deficit	(21,702,577 )	(11,708,956 )
Total liabilities and stockholders' deficit	\$17,280,745	\$30,426,365

See accompanying notes to consolidated financial statements.



FALCONSTOR SOFTWARE, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,	
	2016	2015
Revenue:		
Product revenue	\$10,116,897	\$24,847,724
Support and services revenue	20,146,449	23,723,267
Total revenue	30,263,346	48,570,991
Cost of revenue:		
Product	932,446	1,942,985
Support and service	7,351,857	7,739,149
Total cost of revenue	8,284,303	9,682,134
Gross profit	\$21,979,043	\$38,888,857
Operating expenses:		
Research and development costs	11,702,956	12,787,606
Selling and marketing	13,918,493	18,021,989
General and administrative	6,470,579	9,181,289
Investigation, litigation, and settlement related costs	—	8,842
Restructuring costs	177,389	172,995
Total operating expenses	32,269,417	40,172,721
Operating loss	(10,290,374 )	(1,283,864 )
Interest and other loss, net	(121,213 )	(269,954 )
Loss before income taxes	(10,411,587 )	(1,553,818 )
Provision for income taxes	587,207	375,543
Net loss	\$(10,998,794)	\$(1,929,361 )
Less: Accrual of Series A redeemable convertible preferred stock dividends	777,890	765,203
Less: Accretion to redemption value of Series A redeemable convertible preferred stock	1,181,446	587,613
Net loss attributable to common stockholders	\$(12,958,130)	\$(3,282,177 )
Basic net loss per share attributable to common stockholders	\$(0.30 )	\$(0.08 )
Diluted net loss per share attributable to common stockholders	\$(0.30 )	\$(0.08 )
Weighted average basic shares outstanding	43,091,878	41,093,644
Weighted average diluted shares outstanding	43,091,878	41,093,644

See accompanying notes to consolidated financial statements.

FALCONSTOR SOFTWARE, INC. AND SUBSIDIARIES  
 CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	Years Ended December 31,	
	2016	2015
Net loss	\$(10,998,794)	\$(1,929,361)
Other comprehensive (loss) income, net of applicable taxes:		
Foreign currency translation	(139,394)	(190,499)
Net unrealized gain (loss) on marketable securities	3,406	(1,998)
Net minimum pension liability	1,489	573
Total other comprehensive loss, net of applicable taxes:	(134,499)	(191,924)
Total comprehensive loss	\$(11,133,293)	\$(2,121,285)
Less: Accrual of Series A redeemable convertible preferred stock dividends	777,890	765,203
Less: Accretion to redemption value of Series A redeemable convertible preferred stock	1,181,446	587,613
Total comprehensive loss attributable to common stockholders	\$(13,092,629)	\$(3,474,101)

See accompanying notes to consolidated financial statements.

FALCONSTOR SOFTWARE, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT

	Common Stock	Additional Paid-In Capital	Accumulated Deficit	Treasury Stock	Accumulated Other Comprehensive Loss, Net	Total Stockholders' Deficit
Balance at December 31, 2014	\$ 56,360	\$ 166,933,291	\$(119,054,530)	\$(56,895,059)	\$(1,511,290)	\$(10,471,228)
Net loss	—	—	(1,929,361)	—	—	(1,929,361)
Exercise of stock awards	354	58,888	—	—	—	59,242
Shares issued for Series A redeemable convertible preferred stock dividend payment	227	385,385	—	—	—	385,612
Share-based compensation to non-employees	254	577,820	—	—	—	578,074
Share-based compensation to employees	—	1,351,303	—	—	—	1,351,303
Accretion of Series A redeemable convertible preferred stock	—	(587,613)	—	—	—	(587,613)
Dividends on Series A redeemable convertible preferred stock	—	(765,203)	—	—	—	(765,203)
Purchase of shares	—	—	—	(137,858)	—	(137,858)
Foreign currency translation	—	—	—	—	(190,499)	(190,499)
Net unrealized loss on marketable securities	—	—	—	—	(1,998)	(1,998)
Net minimum pension liability	—	—	—	—	573	573
Balance at December 31, 2015	\$ 57,195	\$ 167,953,871	\$(120,983,891)	\$(57,032,917)	\$(1,703,214)	\$(11,708,956)
Net loss	—	—	(10,998,794)	—	—	(10,998,794)
Exercise of stock awards	565	(565)	—	—	—	—
Shares issued for Series A redeemable convertible preferred stock dividend payment	624	770,166	—	—	—	770,790
Share-based compensation to non-employees	1,099	1,575,783	—	—	—	1,576,882
Share-based compensation to employees	—	751,336	—	—	—	751,336
Accretion of Series A redeemable convertible preferred stock	—	(1,181,446)	—	—	—	(1,181,446)
Dividends on Series A redeemable convertible preferred stock	—	(777,890)	—	—	—	(777,890)

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Foreign currency translation	—	—	—	—	(139,394	) (139,394	)
Net unrealized gain on marketable securities	—	—	—	—	3,406	3,406	
Net minimum pension liability	—	—	—	—	1,489	1,489	
Balance at December 31, 2016	\$ 59,483	\$ 169,091,255	\$ (131,982,685)	\$ (57,032,917)	\$ (1,837,713	) \$ (21,702,577)	

See accompanying notes to consolidated financial statements.



FALCONSTOR SOFTWARE, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,	
	2016	2015
Cash flows from operating activities:		
Net loss	\$(10,998,794)	\$(1,929,361)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,325,706	1,988,924
Share-based payment compensation	751,336	1,351,303
Non-cash professional services expenses	1,576,882	578,074
Loss on disposal of fixed assets	—	45,578
Provision for (Recovery of) returns and doubtful accounts	69,391	(6,745 )
Deferred income tax provision	(120,555 )	(126,640 )
Changes in operating assets and liabilities:		
Accounts receivable	1,381,566	2,232,538
Prepaid expenses and other current assets	416,372	(202,147 )
Inventory	64,353	281,959
Other assets	761,053	15,978
Accounts payable	(597,173 )	(231,598 )
Accrued expenses and other long-term liabilities	(1,993,076 )	378,350
Deferred revenue	(2,060,557 )	(10,699,696 )
Net cash used in operating activities	(9,423,496 )	(6,323,483 )
Cash flows from investing activities:		
Sales of marketable securities	7,566,000	15,200,100
Purchases of marketable securities	(150,000 )	(11,863,108 )
Purchases of property and equipment	(294,061 )	(796,654 )
Proceeds from sale of fixed assets	—	3,153
Capitalized software development costs	—	(134,100 )
Security deposits	127,100	229,016
Purchase of intangible assets	(115,913 )	(214,500 )
Net cash provided by investing activities	7,133,126	2,423,907
Cash flows from financing activities:		
Proceeds from exercise of stock options	—	59,242
Repurchase of common stock	—	(137,858 )
Dividends paid on Series A redeemable convertible preferred stock	—	(377,690 )
Net cash used in financing activities	—	(456,306 )
Effect of exchange rate changes on cash and cash equivalents	(331,484 )	(504,627 )
Net decrease in cash and cash equivalents	(2,621,854 )	(4,860,509 )
Cash and cash equivalents, beginning of year	6,013,382	10,873,891
Cash and cash equivalents, end of year	\$3,391,528	\$6,013,382
Supplemental Disclosures:		
Cash paid for income taxes, net	\$518,955	\$195,895
Non-cash financing activities:		
Undistributed Series A redeemable convertible preferred stock dividends	\$195,904	\$188,805
Shares issued for Series A redeemable convertible preferred stock dividend payment	\$770,790	\$385,612
The Company did not pay any interest for the two years ended December 31, 2016.		

See accompanying notes to consolidated financial statements.



FALCONSTOR SOFTWARE, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements

December 31, 2016

(1) Summary of Significant Accounting Policies

(a) The Company and Nature of Operations

FalconStor Software, Inc., a Delaware Corporation (the "Company"), is a leading software-defined storage company offering a converged data services software platform that is hardware agnostic. The Company develops, manufactures and sells data migration, business continuity, disaster recovery, optimized backup and de-duplication solutions and provides the related maintenance, implementation and engineering services.

(b) Going Concern

A fundamental principle of the preparation of financial statements in accordance with accounting principles generally accepted in the United States of America ("GAAP") is the assumption that an entity will continue in existence as a going concern, which contemplates continuity of operations and the realization of assets and settlement of liabilities occurring in the ordinary course of business. This principle is applicable to all entities except for entities in liquidation or entities for which liquidation appears imminent. In accordance with this requirement, the Company has prepared its consolidated financial statements on a going concern basis.

The Company has incurred significant operating losses in the previous eight years and negative cash flow from operations in five of the previous eight years. The Company currently has a working capital deficiency of \$10.5 million, which is inclusive of current deferred revenue of \$15.2 million, and a stockholders' deficit of \$21.7 million. During the year ended December 31, 2016, the Company incurred a net loss of \$11.0 million and negative cash flow from operations of \$9.4 million. The Company's total cash balance at December 31, 2016 was \$3.4 million, a decrease of \$10.0 million as compared to December 31, 2015. In addition to these financial metrics, as of December 31, 2016, the Company was not in compliance with the financial covenants of the Series A redeemable convertible preferred stock, which are mutually agreed to annually, for two consecutive quarters. This breach provides the Series A redeemable convertible preferred stockholders with the right to require the Company to redeem any of the Series A redeemable convertible preferred stock at the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price of the Company's common stock as of December 31, 2016. To date, the holders of the Series A redeemable convertible preferred stock have neither exercised nor waived this right and accordingly this right may be exercised at any time. In addition, the holders of the Series A redeemable convertible preferred stock have the right to request a redemption of the Series A redeemable convertible preferred stock on or after August 5, 2017. If the holders request that the Series A redeemable convertible preferred stock be redeemed, the Company may not have sufficient liquidity to undertake the redemption. If the Company does not redeem the Series A redeemable convertible preferred stock, the holders of the Series A redeemable convertible preferred stock can pursue other remedies. Refer to Note (8) Series A Redeemable Convertible Preferred Stock for further discussion regarding these other remedies. The Company's reduced cash balance and history of losses both in and of itself, and in combination with the redemption rights of the holders of the Series A redeemable convertible preferred stock, raise substantial doubt about the Company's ability to continue as a going concern within one year after March 10, 2017 (the date that these financial statements were issued).

The Company's ability to continue as a going concern, including in the event of a redemption request by the holder, depends on its ability to execute its business plan, increase revenue and billings and reduce expenditures. During 2016, the Company continued to focus on aligning its expense structure with revenue expectations which included tighter expense controls and overall operational efficiencies which better align the Company's current business plan on a run-rate basis. These efficiencies include among other items, stream-lined personnel related costs and global overhead costs and efficiencies realized on the Company's redesigned go-to-market coverage models. The Company has reduced its worldwide headcount to 166 employees as of December 31, 2016, compared with 226 employees as of December 31, 2015. However, the decline in revenue over the last twelve months combined with the separation costs related to the headcount reductions have reduced the impact of these reductions in operating expenses, thereby not achieving the expected reduction of quarterly cash burn rate.

There is no assurance that the Company will be successful in generating sufficient revenue or continue to reduce operating costs. In addition, to the extent that the Company continues to incur losses, the Company may need to seek additional financing and there can be no assurance that the Company will be able to obtain financing or that such financing will be on favorable terms. Any such financing could be dilutive to our shareholders. Failure to generate sufficient revenue, billings, control or reduce expenditures and/or the inability to obtain financing will result in an inability of the Company to continue as a going concern.

(c) Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

(d) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management 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 revenues and expenses during the reporting period. The Company's significant estimates include those related to revenue recognition, accounts receivable allowances, share-based payment compensation, valuation of derivatives, capitalizable software development costs, valuation of goodwill and other intangible assets, income taxes and management's assessment of going concern. Actual results could differ from those estimates.

The financial market volatility, both in the U.S. and in many other countries where the Company operates, has impacted and may continue to impact the Company's business. Such conditions could have a material impact to the Company's significant accounting estimates discussed above.

(e) Cash Equivalents and Marketable Securities

The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. The Company records its cash equivalents and marketable securities at fair value in accordance with the authoritative guidance issued by the Financial Accounting Standards Board ("FASB") on fair value measurements and disclosures. As of December 31, 2016 and 2015, the Company's cash equivalents consisted of money market funds and commercial paper. At December 31, 2016 and 2015, the fair value of the Company's cash equivalents amounted to approximately \$1.1 million and \$2.7 million, respectively.

As of December 31, 2016, the Company had no marketable securities. As of December 31, 2015, the Company's marketable securities consisted of corporate bonds and government securities with a fair value of approximately and \$7.4 million. All of the Company's marketable securities are classified as available-for-sale, and accordingly, unrealized gains and losses on marketable securities, net of tax, are reflected as a component of accumulated other comprehensive loss in stockholders' deficit. Any other-than-temporary impairments are recorded within interest and other loss, net in the consolidated statement of operations. See Note (4) Marketable Securities for additional information.

(f) Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. To increase the comparability of fair value measurements, a three-tier fair value hierarchy, which prioritizes the inputs used in the valuation methodologies, is as follows:

Level 1—Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2—Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3—Valuations based on unobservable inputs reflecting our own assumptions, consistent with reasonably available assumptions made by other market participants. These valuations require significant judgment.

As of December 31, 2016 and 2015, the fair value of the Company's financial instruments including cash and cash equivalents, accounts receivable, accounts payable and accrued expenses approximated carrying value due to the short maturity of these instruments. See Note (3) Fair Value Measurements for additional information.

(g) Derivative Financial Instruments

The Company does not use derivative instruments to hedge exposures to cash flow, market or foreign currency risk. Terms of convertible preferred stock are reviewed to determine whether or not they contain embedded derivative instruments that are required under FASB ASC 815 “Derivatives and Hedging” (“ASC 815”) to be accounted for separately from the host contract, and recorded on the balance sheet at fair value. The fair value of derivatives are required to be revalued at each reporting date, with corresponding changes in fair value recorded in current period operating results. See Note (13) Derivative Financial Instruments for additional information.

(h) Revenue Recognition

The Company derives its revenue from sales of its products, support and services. Product revenue consists of the Company’s software integrated with industry standard hardware and sold as complete turn-key integrated solutions, as stand-alone software applications or sold on a subscription or consumption basis. Depending on the nature of the arrangement, revenue related to turn-key solutions and stand-alone software applications are generally recognized upon shipment and delivery of license keys. For certain arrangements revenue is recognized based on usage or ratably over the term of the arrangement. Support and services revenue consists of both maintenance revenues and professional services revenues. Revenue is recorded net of applicable sales taxes.

In accordance with the authoritative guidance issued by the FASB on revenue recognition, the Company recognizes revenue when persuasive evidence of an arrangement exists, the fee is fixed or determinable, delivery has occurred, and collection of the resulting receivable is deemed probable. Products delivered to a customer on a trial basis are not recognized as revenue until the trial period has ended and acceptance has occurred by the customer. Reseller and distributor customers typically send the Company a purchase order when they have an end user identified. For bundled arrangements that include either maintenance or both maintenance and professional services, the Company uses the residual method to determine the amount of product revenue to be recognized. Under the residual method, consideration is allocated to the undelivered elements based upon vendor-specific objective evidence (“VSOE”) of the fair value of those elements, with the residual of the arrangement fee allocated to and recognized as product revenue. If VSOE does not exist for all undelivered elements of an arrangement, the Company recognizes total revenue from the arrangement ratably over the term of the maintenance agreement. The Company's long-term portion of deferred revenue consists of (i) payments received for maintenance contracts with terms in excess of one year as of the balance sheet date, and (ii) payments received for product sales bundled with multiple years of maintenance but for which VSOE did not exist for all undelivered elements of the arrangement. The Company provides an allowance for product returns as a reduction of revenue, based upon historical experience and known or expected trends.

When more than one element, such as hardware, software and services are contained in a single arrangement, the Company will first allocate revenue based upon the relative selling price into two categories: (1) non-software components, such as hardware and any hardware-related items, as required system software that functions with the hardware to deliver the essential functionality of the hardware and related post-contract customer support, and software as service subscriptions and (2) software components and applications, such as post-contract customer support and other services. The Company will then allocate revenue within the non-software category to each element based upon their relative selling price using a hierarchy of VSOE, third-party evidence of selling price (“TPE”) or estimated selling prices (“ESP”), if VSOE or TPE does not exist. The Company will allocate revenue within the software category to the undelivered elements based upon their fair value using VSOE with the residual revenue allocated to the delivered elements. If the Company cannot objectively determine the VSOE of the fair value of any undelivered software element, the Company will defer revenue for all software components until all elements are delivered and services have been performed, until fair value can objectively be determined for any remaining undelivered elements, or until software maintenance is the only undelivered element which the Company does not

have VSOE for, in which case revenue is recognized over the maintenance term for all software elements.

Revenues associated with maintenance services are deferred and recognized as revenue ratably over the term of the contract. Revenues associated with software implementation and software engineering services are recognized when the services are performed and customer acceptance is received. Costs of providing these services are included in cost of support and services.

The Company has entered into various distribution, licensing and joint promotion agreements with OEMs, whereby the Company has provided the OEM a non-exclusive software license to install the Company's software on certain hardware or to resell the Company's software in exchange for payments based on the products distributed by these OEMs. Such payments from the OEM or distributor are recognized as revenue in the period reported by the OEM.



From time to time the Company will enter into funded software development arrangements. Under such arrangements, revenue recognition will not commence until final delivery and/or acceptance of the product. For arrangements where the Company has VSOE for the undelivered elements, the Company will follow the residual method and recognize product revenue upon final delivery and/or acceptance of the product. For arrangements where the Company does not have VSOE for the undelivered elements, the Company will recognize the entire arrangement fee ratably commencing at the time of final delivery and/or acceptance through the end of the service period in the arrangement. Certain arrangements, for which VSOE of fair value for the undelivered maintenance elements cannot be established, are accounted for as a single unit of account. The revenue recognized from single units of accounting are typically allocated and classified on the consolidated statements of operations as product revenue and support and services revenue. Since VSOE cannot be established, VSOE of similar maintenance offerings provides the basis for the support and services revenue classification, and the remaining residual consideration provides the basis for the product revenue classification.

In 2013, the Company entered into a joint development agreement whereby final acceptance of the software delivered under the joint development agreement occurred on November 16, 2014. During 2014, the Company began to recognize the total committed fee as revenue ratably over a twenty-five and a half month period which began on November 16, 2014 and included a contractual twenty-four month maintenance period. During 2015, the customer elected to terminate its maintenance agreement and as such all unrecognized deferred revenue was accelerated and recognized as product revenue during the year. During the years ended December 31, 2016 and 2015, the Company recorded no product revenue and product revenue of approximately \$11.3 million, respectively, related to this agreement.

#### (i) Property and Equipment

Property and equipment are recorded at cost. Depreciation is recognized using the straight-line method over the estimated useful lives of the assets (3 to 7 years). Leasehold improvements are amortized on a straight-line basis over the terms of the respective leases or over their estimated useful lives, whichever is shorter.

#### (j) Goodwill and Other Intangible Assets

Goodwill represents the excess of the purchase price over the estimated fair value of net tangible and identifiable intangible assets acquired in business combinations. The Company has not amortized goodwill related to its acquisitions, but instead tests the balance for impairment. The Company evaluates goodwill for impairment annually or more frequently when an event occurs or circumstances change that indicate that the carrying value may not be recoverable. The Company tests goodwill for impairment by first comparing the book value of net assets to the fair value of the reporting unit. If the fair value is determined to be less than the book value or qualitative factors indicate that it is more likely than not that goodwill is impaired, a second step is performed to compute the amount of impairment as the difference between the estimated fair value of goodwill and the carrying value.

The Company's annual impairment assessment is performed at December 31st of each year, and the Company has determined there to be no impairment for any of the periods presented. Based on the Company's analysis, the fair value of its reporting unit substantially exceeds the carrying value of its goodwill balances as of December 31, 2016 and 2015. As part of the goodwill impairment test performed at December 31, 2016, the Company determined it was more likely than not that a goodwill impairment exists and the Company proceeded to step two of the goodwill impairment test. The Company engaged a third-party valuation firm to determine the fair value of all long-lived assets other than goodwill and determine the residual goodwill value of the reporting unit. This goodwill impairment test indicated that the fair value of goodwill value exceeded its carrying value by \$15.8 million. The Company used multiple valuation techniques, the income and market approaches, and weighted the results to calculate the fair value of its goodwill as of December 31, 2016. Changes in the assumptions used in the goodwill valuation could materially impact the fair value

estimates. Significant assumptions to the goodwill fair value estimate include; projected future financial statement results for the Company, discount rate and projected long-term growth rates.

Identifiable intangible assets include (i) assets acquired through business combinations, which include customer contracts and intellectual property, and (ii) patents amortized over three years using the straight-line method.

The gross carrying amount and accumulated amortization of goodwill and other intangible assets as of December 31, 2016 and 2015 are as follows:

	December 31, 2016	December 31, 2015
Goodwill	\$4,150,339	\$4,150,339
Other intangible assets:		
Gross carrying amount	\$3,725,437	\$3,609,524
Accumulated amortization	(3,515,981 )	(3,353,387 )
Net carrying amount	\$209,456	\$256,137

For the years ended December 31, 2016 and 2015, amortization expense was \$162,594 and \$154,400, respectively. As of December 31, 2016, amortization expense for existing identifiable intangible assets is expected to be \$124,712, \$66,709 and \$18,035 for the years ended December 31, 2017, 2018 and 2019, respectively. Such assets will be fully amortized at December 31, 2019.

(k) Software Development Costs and Purchased Software Technology

In accordance with the authoritative guidance issued by the FASB on costs of software to be sold, leased, or marketed, costs associated with the development of new software products and enhancements to existing software products are expensed as incurred until technological feasibility of the product has been established. Based on the Company's product development process, technological feasibility is established upon completion of a working model.

Amortization of software development costs is recorded at the greater of the straight-line basis over the product's estimated life, or the ratio of current period revenue of the related products to total current and anticipated future revenue of these products. The gross carrying amount and accumulated amortization of software development costs as of December 31, 2016 and 2015 are as follows:

	December 31, 2016	December 31, 2015
Software development costs:		
Gross carrying amount	\$2,917,215	\$3,037,215
Accumulated amortization	(2,369,657 )	(1,920,399 )
Software development costs, net	\$547,558	\$1,116,816

During the years ended December 31, 2016 and 2015, the Company recorded \$449,258 and \$525,801, respectively, of amortization expense related to capitalized software costs. As of December 31, 2016, amortization expense for software development costs is expected to be \$268,144, \$223,095, \$55,174, and \$1,145 for the years ended December 31, 2017, 2018, 2019 and 2020, respectively. Such assets will be fully amortized at December 31, 2020.

(l) Income Taxes

The Company records income taxes under the asset and liability method. Deferred tax assets and liabilities are recognized for future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be realized or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. In determining the period in which related tax benefits are realized for financial reporting purposes, excess share-based compensation deductions included in net operating losses are realized after regular net operating losses are exhausted.

The Company accounts for uncertain tax positions in accordance with the authoritative guidance issued by the FASB on income taxes, which addresses the determination of whether tax benefits claimed or expected to be claimed on a tax return, should be recorded in the financial statements. Pursuant to the authoritative guidance, the Company may recognize the tax benefit from an uncertain tax position only if it meets the “more likely than not” threshold that the position will be sustained on examination by the taxing authority, based on the technical merits of the position or expiration of statutes. The tax benefits recognized in the financial statements from such a position should be measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. In addition, the authoritative guidance addresses de-recognition, classification, interest and penalties on income taxes, accounting in interim periods, and also requires increased disclosures. The Company includes interest and penalties related to its uncertain tax positions as part of income tax expense within its consolidated statement of operations. See Note (6) Income Taxes for additional information.

(m) Long-Lived Assets

The Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. If the sum of the expected future cash flows, undiscounted and without interest, is less than the carrying amount of the asset, an impairment loss is recognized as the amount by which the carrying amount of the asset exceeds its fair value.

(n) Share-Based Payments

The Company accounts for share-based payments in accordance with the authoritative guidance issued by the FASB on share-based compensation, which establishes the accounting for transactions in which an entity exchanges its equity instruments for goods or services. Under the provisions of the authoritative guidance, share-based compensation expense is measured at the grant date, based on the fair value of the award, and is recognized as an expense over the requisite employee service period (generally the vesting period), net of estimated forfeitures. For share-based payment awards that contain performance criteria share-based compensation expense is recorded when the achievement of the performance condition is considered probable of achievement and is recorded straight-line over the requisite service period. If such performance criteria are not met, no compensation cost is recognized and any recognized compensation cost is reversed. The Company estimates the fair value of share-based payments using the Black-Scholes option-pricing model or the Monte Carlo simulation model if a market condition exists. Share-based compensation expense for a share-based payment award with a market condition is recorded straight-line over the longer of the explicit service period or the service period derived from the Monte Carlo simulation. The estimation of share-based awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from the Company's current estimates, such amounts will be recorded as a cumulative adjustment in the period estimates are revised. The Company considers many factors when estimating expected forfeitures, including types of awards, employee class and historical experience. Additionally, share-based awards to non-employees are expensed over the period in which the related services are rendered at their fair value. All share-based awards are expected to be fulfilled with new shares of common stock. See Note (10) Share-Based Payment Arrangements for additional information.

(o) Foreign Currency

Assets and liabilities of foreign operations are translated at rates of exchange at the end of the period, while results of operations are translated at average exchange rates in effect for the period. Gains and losses from the translation of foreign assets and liabilities from the functional currency of the Company's subsidiaries into the U.S. dollar are classified as accumulated other comprehensive loss in stockholders' deficit. Gains and losses from foreign currency transactions are included in the consolidated statements of operations within interest and other loss, net. During the years ended December 31, 2016 and 2015, foreign currency transactional losses totaled approximately \$33,191 and \$384,972, respectively.

(p) Earnings Per Share (EPS)

Basic EPS is computed based on the weighted average number of shares of common stock outstanding. Diluted EPS is computed based on the weighted average number of common shares outstanding increased by dilutive common stock equivalents, attributable to stock option awards, restricted stock awards and Series A redeemable convertible preferred stock outstanding.

The following represents the common stock equivalents that were excluded from the computation of diluted shares outstanding because their effect would have been anti-dilutive for the years ended December 31, 2016 and 2015:

	Year Ended December	
	31,	
	2016	2015
Stock options and restricted stock	5,628,290	7,972,341
Series A redeemable convertible preferred stock	8,781,516	8,781,516
Total anti-dilutive common stock equivalents	14,409,806	16,753,857

The following represents a reconciliation of the numerators and denominators of the basic and diluted EPS computation:

	Year Ended December 31,	
	2016	2015
Numerator:		
Net Loss	\$ (10,998,794)	\$ (1,929,361)
Effects of Series A redeemable convertible preferred stock:		
Less: Series A redeemable convertible preferred stock dividends	777,890	765,203
Less: Accretion to redemption value of Series A redeemable convertible preferred stock	1,181,446	587,613
Net loss attributable to common stockholders	\$ (12,958,130)	\$ (3,282,177)
Denominator:		
Weighted average basic shares outstanding	43,091,878	41,093,644
Effect of dilutive securities:		
Stock options and restricted stock	—	—
Series A redeemable convertible preferred stock	—	—
Weighted average diluted shares outstanding	43,091,878	41,093,644
EPS:		
Basic net loss per share attributable to common stockholders	\$ (0.30	) \$ (0.08 )
Diluted net loss per share attributable to common stockholders	\$ (0.30	) \$ (0.08 )

(q) Investments

As of December 31, 2016 and 2015, the Company did not have any cost-method investments.

(r) Treasury Stock

The Company accounts for treasury stock under the cost method and includes treasury stock as a component of stockholders' deficit.

(s) Recently Adopted Accounting Pronouncements

In November 2015, the FASB issued new guidance which requires an entity to classify deferred tax liabilities and assets, along with any related valuation allowance, as non-current in its consolidated balance sheet. The amendments in this update may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. The amendments in this update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2016, which for the Company will be the annual period ending December 31, 2017. Early adoption, including adoption in an interim period, is permitted. The Company adopted this guidance prospectively for the year ended December 31, 2016.

In November 2014, the FASB issued new guidance which requires an entity to determine whether the host contract in a hybrid financial instrument issued in the form of a share is more akin to debt or to equity by considering the economic characteristics and risks of the entire hybrid financial instrument, including the embedded derivative feature that is being evaluated for separate accounting from the host contract. The effects of initially adopting the amendments in this update should be applied on a modified retrospective basis to existing hybrid financial instruments issued in the form of a share as of the beginning of the fiscal year for which the amendments are effective. The amendments in this update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2015, which for the Company was the first quarter of 2016. The adoption of this new accounting

guidance by Company has not had any impact on the Company's consolidated financial position, results of operations or cash flows.



In August 2014, the FASB issued new guidance which requires an entity to evaluate whether there are conditions or events, in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are issued (or within one year after the financial statements are available to be issued when applicable), and to provide related footnote disclosures in certain circumstances. The amendments in this update are effective for the annual period ending after December 15, 2016, and for annual and interim periods thereafter, which for the Company is the annual period ending December 31, 2016. The Company's consolidated financial statements include appropriate disclosures in accordance with this guidance.

(t) Recently Issued Accounting Pronouncements

In January 2017, the FASB issued new guidance on accounting for goodwill to simplify the goodwill impairment test by eliminating Step 2 of the goodwill impairment test. This new guidance also eliminates the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment and, if it fails that qualitative test, to perform Step 2 of the goodwill impairment test. The new standard is effective for the annual period beginning after December 15, 2019, including interim reporting periods within that period, which for the Company will be the annual period ending December 31, 2020. Early adoption, is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The standard should be applied on a prospective basis. The Company has not yet adopted this guidance and currently does not expect the adoption of the new guidance by the Company to have a significant impact on the Company's financial statements and related disclosures.

In August 2016, the FASB issued new guidance on presentation and classification of eight specific items within the statement of cash flows, including (i) debt prepayment or debt extinguishment costs, (ii) settlement of zero-coupon debt instruments or other debt instruments with coupon rates that are insignificant in relation to the effective interest rate of the borrowing, (iii) contingent consideration payments made after a business combination, (iv) proceeds from the settlement of insurance claims, (v) proceeds from the settlement of corporate-owned life insurance policies, including bank-owned life insurance policies, (vi) distributions received from equity method investees, (vii) beneficial interests in securitization transactions, and (viii) separately identifiable cash flows and application of the predominance principle. This update is effective for annual reporting periods, and interim periods therein, beginning after December 15, 2017, which for the Company will be the annual period ending December 31, 2018. Early adoption, including adoption in an interim period, is permitted. The Company has not yet adopted this guidance and currently does not expect the adoption of the new guidance by the Company to have a significant impact on the Company's financial statements and related disclosures.

In March 2016, the FASB issued new guidance on accounting for employee share-based payment awards to simplify the accounting related to several aspects of accounting for share-based payment transactions, including income tax consequences of share-based payment transactions, classification of awards as either equity or liabilities, forfeitures, and classification on the statement of cash flows. The new standard is effective for the annual period beginning after December 15, 2016, including interim reporting periods within that period, which for the Company will be the annual period ending December 31, 2017. Early adoption, including adoption in an interim period, is permitted. The standard requires the use of several transition methods including a modified retrospective transition method, retrospective method and prospective method. The Company has not yet adopted this guidance and currently does not expect the adoption of the new guidance by the Company to have a significant impact on the Company's financial statements and related disclosures.

In February 2016, the FASB issued new guidance on leases to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. This new guidance will replace existing guidance on leases in accounting principles generally accepted in the United States when it becomes effective. The new standard is effective for the annual period beginning after December 15, 2018, including interim reporting periods within that period, which for the Company

will be the annual period ending December 31, 2019. Early application is permitted. The standard requires the use of a modified retrospective transition method; however, certain optional practical expedients may be applied. The Company's preliminary analysis indicates that the Company will recognize a liability for remaining lease payments and a right-of-use asset related the Company's operating lease covering its corporate office facility that expires in April 2021. Currently the Company's additional operating leases related to offices in foreign countries are set to expire prior to adoption of the new guidance. The Company is in the initial stages of evaluating the effect of the standard on the Company's financial statements.

In January 2016, the FASB issued new guidance on the recognition, measurement, presentation and disclosure of financial assets and financial liabilities. The standard (i) requires an entity to measure equity investments, except those accounted for under the equity method of accounting or those that result in consolidation of the investee, at fair value with changes in fair value recognized in net income, (ii) simplifies the impairment assessment of equity investments without readily determinable fair values by requiring an entity to perform a qualitative assessment to identify impairment, (iii) changes certain presentation and disclosure requirements related to financial assets and financial liabilities, and (iv) clarifies that an entity should evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entity's other deferred tax assets. The amendments in this update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017, which for the Company will be the annual period ending December 31, 2018. Early adoption, including adoption in an interim period, is not permitted except for certain amendments in this update. The Company has not yet adopted this guidance and currently does not expect the adoption of the new guidance by the Company to have a significant impact on the Company's financial statements and related disclosures.

In May 2014, the FASB issued new guidance which 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. This new guidance will replace most existing revenue recognition guidance in Generally Accepted Accounting Principles in the United States when it becomes effective. The new standard is effective for the annual period beginning after December 15, 2017, including interim reporting periods within that period, which for the Company will be the annual period ending December 31, 2018. Early application as of January 1, 2017 is permitted. The standard permits the use of either the retrospective or cumulative effect transition method. The Company is evaluating the effect that this new guidance will have on its consolidated financial statements and related disclosures. The Company has formed an implementation team to evaluate the standard's effect on the Company's financial statements. The Company has historically deferred revenue for certain deliverables in its multiple-element arrangements due to a lack of VSOE for those deliverables. The Company's preliminary analysis indicates that the Company will recognize revenue for these arrangements earlier under the new standard than under existing guidance due to the elimination of the VSOE requirement. The Company is in the initial stages of evaluating the effect of the standard on the Company's financial statements and continues to evaluate the available transition methods.

## (2) Property and Equipment

Property and equipment consist of the following:

	December 31, 2016	December 31, 2015
Computer hardware and software	\$16,913,397	\$16,607,596
Furniture and equipment	911,391	961,712
Leasehold improvements	1,930,701	1,931,291
Automobile	—	13,008
Property and Equipment, Gross	19,755,489	19,513,607
Less accumulated depreciation	(18,580,547 )	(17,947,675 )
Property and Equipment, Net	\$1,174,942	\$1,565,932

During the year ended December 31, 2016, the Company wrote off approximately \$113,000 of fixed assets and approximately \$110,000 of related accumulated depreciation related to assets that were no longer in use. During the year ended December 31, 2015, the Company wrote off approximately \$214,000 of fixed assets and approximately \$161,000 of related accumulated depreciation related to assets that were no longer in use.

Depreciation expense was \$713,854 and \$1,308,723 in 2016 and 2015, respectively.



### (3) Fair Value Measurements

The Company measures its cash equivalents, marketable securities and derivative instruments at fair value. Fair value is an exit price, representing the amount that would be received on the sale of an asset or that would be paid to transfer a liability in an orderly transaction between market participants. As a basis for considering such assumptions, the Company utilizes a three-tier fair value hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value.

#### Fair Value Hierarchy

The methodology for measuring fair value specifies a hierarchy of valuation techniques based upon whether the inputs to those valuation techniques reflect assumptions other market participants would use based upon market data obtained from independent sources (observable inputs) or reflect the Company's own assumptions of market participant valuation (unobservable inputs). As a result, observable and unobservable inputs have created the following fair value hierarchy:

Level 1 – Quoted prices in active markets that are unadjusted and accessible at the measurement date for identical, unrestricted assets or liabilities. At December 31, 2016 and 2015, the Level 1 category included money market funds and commercial paper, which are included within “cash and cash equivalents” in the consolidated balance sheets.

Level 2 – Quoted prices for identical assets and liabilities in markets that are not active, quoted prices for similar assets and liabilities in active markets or financial instruments for which significant inputs are observable, either directly or indirectly. The Company had no Level 2 securities at December 31, 2016. At December 31, 2015, the Level 2 category included government securities and corporate debt securities, which are included within “marketable securities” in the consolidated balance sheets.

Level 3 – Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable. At December 31, 2016 and 2015, the Level 3 category included derivatives, which are included in “other long-term liabilities” in the consolidated balance sheets with the change in fair value from the period included in “interest and other loss, net” in the consolidated statement of operations. The Company did not hold any cash, cash equivalents or marketable securities categorized as Level 3 as of December 31, 2016 or 2015.

#### Measurement of Fair Value

The Company measures fair value as an exit price using the procedures described below for all assets and liabilities measured at fair value. When available, the Company uses unadjusted quoted market prices to measure fair value and classifies such items within Level 1. If quoted market prices are not available, fair value is based upon financial models that use, when possible, current market-based or independently-sourced market parameters such as interest rates and currency rates. Items valued using financial generated models are classified according to the lowest level input or value driver that is significant to the valuation. Thus, an item may be classified in Level 3 even though there may be inputs that are readily observable. If quoted market prices are not available, the valuation model used generally depends on the specific asset or liability being valued. The determination of fair value considers various factors including interest rate yield curves and time value underlying the financial instruments.

The fair value of the Company's investments in corporate debt and government securities have been determined utilizing third party pricing services and reviewed by management. The pricing services use inputs to determine fair value which are derived from observable market sources including reportable trades, benchmark curves, credit spreads, broker/dealer quotes, bids, offers, and other industry and economic events. These investments are included in Level 2 of the fair value hierarchy.

The fair value of the Company's derivatives were valued using the Black-Scholes pricing model adjusted for probability assumptions, with all significant inputs, except for the probability and volatility assumptions, derived from or corroborated by observable market data such as stock price and interest rates. The probability and volatility assumptions are both significant to the fair value measurement and unobservable. These embedded derivatives are included in Level 3 of the fair value hierarchy.

## Items Measured at Fair Value on a Recurring Basis

The following table presents the Company's assets and liabilities that are measured at fair value on a recurring basis at December 31, 2016:

	Total	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant other Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents:				
Money market funds	\$1,133,280	\$1,133,280	\$ —	\$ —
Total cash equivalents	1,133,280	1,133,280	—	—
Marketable securities:				
Corporate debt and government securities	—	—	—	—
Total marketable securities	—	—	—	—
Derivative liabilities:				
Derivative Instruments	336,862	—	—	336,862
Total derivative liabilities	336,862	—	—	336,862
Total assets and liabilities measured at fair value	\$1,470,142	\$1,133,280	\$ —	\$ 336,862

The following table presents the Company's assets and liabilities that are measured at fair value on a recurring basis at December 31, 2015:

	Total	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant other Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents:				
Money market funds and commercial paper	\$2,725,094	\$2,725,094	\$ —	\$ —
Total cash equivalents	2,725,094	2,725,094	—	—
Marketable securities:				
Corporate debt and government securities	7,420,042	—	7,420,042	—
Total marketable securities	7,420,042	—	7,420,042	—
Derivative liabilities:				
Derivative Instruments	82,024	—	—	82,024
Total derivative liabilities	82,024	—	—	82,024
Total assets and liabilities measured at fair value	\$10,227,160	\$2,725,094	\$7,420,042	\$ 82,024





The following table presents the Company's assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) as of each of the years ended December 31, 2016 and 2015:

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)	
	December 31, 2016	December 31, 2015
Beginning Balance	\$82,024	\$ 137,171
Issuance of Derivative Instruments	—	—
Total loss (gain) recognized in earnings	254,838	(55,147 )
Ending Balance	\$336,862	\$ 82,024

#### (4) Marketable Securities

The Company's marketable securities consist of available-for-sale securities, which are carried at fair value, with unrealized gains and losses reported as a separate component of stockholders' equity. Unrealized gains and losses are computed on the specific identification method. Realized gains, realized losses and declines in value judged to be other-than-temporary, are included in interest and other income (loss), net. The cost of available-for-sale securities sold is based on the specific identification method and interest earned is included in interest and other income.

As of December 31, 2016, the Company had no available-for-sale marketable securities. The cost and fair values of the Company's available-for-sale marketable securities as of December 31, 2015, were as follows:

	Aggregate Fair Value	Cost or Amortized Cost	Net Unrealized Losses
Government securities	\$6,560,303	\$6,562,792	\$ (2,489 )
Corporate debt securities	859,739	860,656	(917 )
	\$7,420,042	\$7,423,448	\$ (3,406 )

#### (5) Accrued Expenses

Accrued expenses are comprised of the following:

	December 31, 2016	December 31, 2015
Accrued compensation	\$1,058,671	\$2,236,494
Accrued consulting and professional fees	1,270,568	1,561,425
Accrued marketing and promotion	10,307	69,258
Other accrued expenses	259,567	588,746
Accrued income taxes	129,784	106,270
Accrued other taxes	699,872	1,247,596
Accrued hardware purchases	—	67,280
Accrued restructuring costs	846,337	717,640
Accrued Series A redeemable convertible preferred stock dividends	195,904	188,805
	\$4,471,010	\$6,783,514



## (6) Income Taxes

Information pertaining to the Company's loss before income taxes and the applicable provision for income taxes is as follows:

	December 31,	
	2016	2015
Loss before income taxes:		
Domestic loss	\$(10,998,240)	\$(2,310,565)
Foreign income	586,653	756,747
Total loss before income taxes:	(10,411,587 )	(1,553,818 )
Provision (benefit) for income taxes:		
Current:		
Federal	\$(17,626 )	\$3,939
State and local	1,886	16,002
Foreign	723,502	482,242
	707,762	502,183
Deferred:		
Federal	\$154,641	\$(167,634 )
State and local	1,766	7,006
Foreign	(276,962 )	33,988
	(120,555 )	(126,640 )
Total provision for income taxes:	\$587,207	\$375,543

During 2016, the Company recorded a tax provision of \$587,207 related to state and local and foreign income taxes, inclusive of a tax provision of \$122,004 as a result of the Company's change in estimate with respect to the realizability of its AMT credits. During 2015 the Company recorded a tax provision of \$375,543 related to state and local and foreign income taxes and is inclusive of a tax benefit of \$180,021 related to certain AMT tax credits that became realizable on a more-likely-than-not basis as a result of recent federal tax legislation enacted in December 2015.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and for income tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows:

	December 31,	
	2016	2015
Deferred Tax Assets:		
Allowance for receivables	\$ 100,414	\$ 72,539
Deferred revenue	3,648,029	2,939,462
Share-based compensation	2,254,428	3,095,723
Accrued expenses and other liabilities	418,483	307,565
Domestic net operating loss carryforwards	30,714,934	26,023,318
Foreign net operating loss carryforwards	9,761	99,544
Tax credit carryforwards	574,997	574,997
AMT tax credit carryforwards	460,607	483,285
Capital loss carryforwards	78,296	77,586
Fixed assets	489,105	554,154
Intangibles	1,435,994	1,762,519
Sub-total	40,185,048	35,990,692
Valuation allowance	(38,800,877)	(35,121,608)
Total Deferred Tax Assets	1,384,171	869,084
Deferred Tax Liabilities:		
Deferred state income tax	(923,553 )	(541,359 )
Foreign withholding taxes	(137,659 )	(128,261 )
Total Deferred Tax Liabilities	(1,061,212 )	(669,620 )
Net Deferred Tax Assets	\$ 322,959	\$ 199,464

As of each reporting date, the Company considers new evidence, both positive and negative, that could affect its view of the future realization of deferred tax assets. During 2015, the Company considered the impact of new legislation regarding potential refunds of its AMT tax credits and determined that there is sufficient positive evidence to conclude that it is more-likely-than-not that AMT credits of \$180,021 are realizable which resulted in a reduction to the valuation allowance and a benefit to income tax expense. During 2016, the Company revised its estimate of potential refundable AMT credits and recorded an income tax provision of \$122,004. The Company determined its other net domestic deferred tax assets are not realizable on a more-likely-than-not basis.

As of December 31, 2016, the Company had federal net operating loss carryforwards of approximately \$84.7 million which are set to expire beginning in 2030 through 2036, if not utilized. As of December 31, 2016, the Company had approximately \$3.6 million of various tax credit carryforwards, of which, approximately \$3.1 million related to research and development tax credit carryforwards which expire at various dates beginning in 2023 through 2028, if not utilized. As of December 31, 2016, the Company had approximately \$0.5 million related to AMT credit carryforwards, which may be carried forward indefinitely.

As of December 31, 2016, the Company had not provided for the United States income or additional foreign withholding taxes on approximately \$4.2 million of undistributed earnings of its subsidiaries operating outside of the United States, with the exception of China. It is the Company's practice and intention to reinvest those earnings permanently. Generally, such amounts become subject to United States taxation upon remittance of dividends and under certain other circumstances. Determination of the amount of any unrecognized deferred tax liability related to investments in these foreign subsidiaries is not practicable.



The effective tax rate before income taxes varies from the current statutory federal income tax rate as follows:

	December 31,	
	2016	2015
Tax at Federal statutory rate	\$(3,644,056)	\$(543,836)
Increase (reduction) in income taxes resulting from:		
State and local taxes	2,172	3,195
Non-deductible expenses	(28,812 )	(31,199 )
Net effect of foreign operations	232,858	235,850
Uncertain tax positions	12,440	26,814
Change in valuation allowance	4,011,710	680,780
Other	895	3,939
	\$587,207	\$375,543

A reconciliation of the beginning and ending amount of unrecognized tax benefits, excluding interest and penalties, is as follows:

	2016	2015
Balance at January 1,	\$217,289	\$224,637
Increases to tax positions taken in prior years	4,510	9,306
Decreases to tax positions taken in prior years	—	—
Increase for tax positions taken during the current year	—	—
Expiration of statutes of limitation	(3,323 )	—
Translation	(1,015 )	(16,654 )
Balance at December 31,	\$217,461	\$217,289

At December 31, 2016, \$328,739 including interest, if recognized, would reduce the Company's annual effective tax rate. As of December 31, 2016, the Company had approximately \$111,278 of accrued interest. The Company believes it is reasonably possible that \$96,907 of its unrecognized tax benefits will reverse within the next 12 months. The Company records any interest and penalties related to unrecognized tax benefits in income tax expense.

The Company files federal, state, and foreign income tax returns in jurisdictions with varying statutes of limitations. The 2013 through 2016 tax years generally remain subject to examination by federal and most state tax authorities. In addition to the U.S., the Company's major taxing jurisdictions include China, Taiwan, Japan, France and Germany.

#### (7) Accumulated Other Comprehensive Loss

The changes in Accumulated Other Comprehensive Loss, net of applicable tax, for December 31, 2016 are as follows:

	Foreign Currency Translation	Net Unrealized Losses on Marketable Securities	Net Minimum Pension Liability	Total
Accumulated other comprehensive (loss) income at December 31, 2015	\$(1,726,994)	\$ (3,406 )	\$ 27,186	\$(1,703,214)
Other comprehensive (loss) income				
Other comprehensive loss before reclassifications	(139,394 )	—	(3,447 )	(142,841 )
Amounts reclassified from accumulated other comprehensive (loss) income	—	3,406	4,936	8,342
Total other comprehensive (loss) income	(139,394 )	3,406	1,489	(134,499 )
	\$(1,866,388)	\$ —	\$ 28,675	\$(1,837,713)

Accumulated other comprehensive (loss) income at December 31,  
2016

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The changes in Accumulated Other Comprehensive Loss, net of applicable tax, for December 31, 2015 are as follows:

	Foreign Currency Translation	Net Unrealized Gains (Losses) on Marketable Securities	Net Minimum Pension Liability	Total
Accumulated other comprehensive (loss) income at December 31, 2014	\$(1,536,495)	\$ (1,408 )	\$ 26,613	\$(1,511,290)
Other comprehensive (loss) income				
Other comprehensive loss before reclassifications	(190,499 )	(1,549 )	(5,997 )	(198,045 )
Amounts reclassified from accumulated other comprehensive (loss) income	—	(449 )	6,570	6,121
Total other comprehensive (loss) income	(190,499 )	(1,998 )	573	(191,924 )
Accumulated other comprehensive (loss) income at December 31, 2015	\$(1,726,994)	\$ (3,406 )	\$ 27,186	\$(1,703,214)

For the year ended December 31, 2016 and 2015, the amounts reclassified to net loss related to the Company's defined benefit plan and maturities of marketable securities. These amounts are included within "Operating loss" within the consolidated statement of operations.

#### (8) Series A Redeemable Convertible Preferred Stock

On September 16, 2013, the Company issued to Hale Capital Partners, LP ("Hale") 900,000 shares of the Company's Series A redeemable convertible preferred stock, par value \$0.001 per share, at a price of \$10 per share, for an aggregate purchase consideration of \$9.0 million, which was subsequently transferred to HCP-FVA LLC. Each share of Series A redeemable convertible preferred stock is convertible into common stock equivalents, at the option of the holder and upon certain mandatory conversion events described below, at a conversion rate of \$1.02488 (as adjusted for stock splits, stock dividends, reverse stock splits, stock combinations, reclassifications and similar events). The Company received net proceeds of approximately \$8.7 million from the issuance of the redeemable convertible preferred stock in 2013, net of transaction costs.

If the volume weighted average price of common stock for each trading day of any 60 consecutive trading days exceeds 250% of the conversion price and exceeds 225% of the conversion price through the conversion date, and certain equity conditions are met such that shares of common stock issued upon conversion can be immediately saleable by the redeemable convertible preferred stockholders, the Company can convert the redeemable convertible preferred stock up to an amount equal to the greater of 25% of the daily trading volume for the 20 consecutive trading days immediately preceding the conversion date or the amount of an identified bona fide block trade at a price reasonably acceptable to the applicable redeemable convertible preferred stockholder, but which price is not less than the arithmetic average of the weighted average prices of the common stock for the five trading days immediately preceding such sale.

The holders of the Series A redeemable convertible preferred stock have veto power over certain future financings, and certain rights to participate in any subsequent financing, whether through debt or equity (subject to certain exclusions). In addition, the Company's agreements with the holders of the Series A redeemable convertible preferred stock provide that if, at the time of certain future debt or equity financings, the proceeds of which exceed \$5.0 million, the holders of the Series A redeemable convertible preferred stock still have outstanding Series A redeemable convertible preferred stock, then the Company must offer to repurchase their Series A redeemable convertible



preferred stock. The holders of the Series A redeemable convertible preferred stock have the right to accept the offer or to retain their Series A redeemable convertible preferred stock. If the Company does a financing, and the holders of the Series A redeemable convertible preferred stock elect to have their Series A redeemable convertible preferred stock repurchased, then the capital raised in excess of \$5.0 million will go to repurchase the holders' Series A redeemable convertible preferred stock, instead of being able to be used for our business.

The Company cannot consummate a fundamental sale transaction in which the consideration is stock or a combination of cash and stock without the consent of the holder of the Series A redeemable convertible preferred stock.

In addition to the veto rights set forth in the preceding paragraph, upon consummation of a fundamental sale transaction in which the consideration is cash and is not approved by the holder of the Series A redeemable convertible preferred stock, the Series A redeemable convertible preferred stock shall be redeemed at a per share redemption price equal to the greater of (i) 250% of the stated value of the Series A redeemable convertible preferred stock (which is currently equal to \$22.5 million or \$2.56 per share of common stock held by the holder of the Series A redeemable convertible preferred stock on an as converted basis as of December 31, 2016) and (ii) the price such holder would receive in the transaction on an as converted basis.

Upon certain triggering events, such as bankruptcy, insolvency or a material adverse effect, failure to achieve minimum financial covenants or failure of the Company to issue shares upon conversion of the Series A redeemable convertible preferred stock in accordance with its obligations, the Series A redeemable convertible preferred stockholders may require the Company to redeem all or some of the Series A redeemable convertible preferred stock at a price equal to the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price as of the occurrence of the triggering event. On or after August 5, 2017, each Series A redeemable convertible preferred stockholder can require the Company to redeem its Series A redeemable convertible preferred stock in cash at a price equal to 100% of the stated value being redeemed plus accrued and unpaid dividends. If the Company does not have the funds necessary to redeem the Series A redeemable convertible preferred stock, the dividends accruing on any outstanding Series A redeemable convertible preferred stock will increase to prime plus 10% (from prime plus 5%). For each six months that the Series A redeemable convertible preferred stock remains unredeemed, the dividend rate increases by 1%, subject to a maximum dividend rate of 19%. In addition, the Company's failure to redeem the Series A redeemable convertible preferred stock would be considered a "Breach Event" under the agreements with the holders of the Series A redeemable convertible preferred stock. If a Breach Event were to occur and the Company is in default under or has breached any provision in respect of its obligations to redeem the Series A redeemable convertible preferred stock, then, under the agreements with the holders of our Series A redeemable convertible preferred stock, the Company's Board of Directors would automatically be increased, with the holders of the Series A redeemable convertible preferred stock having the right to appoint the new directors, so that the holders of the Series A redeemable convertible preferred stock would have appointed a majority of the Board of Directors. This would give the holders of the Series A redeemable convertible preferred stock control of the Company. As of December 31, 2016, the Company was not in compliance with the financial covenants of the Series A redeemable convertible preferred stock for two consecutive quarters, which provides the Series A redeemable convertible preferred stockholders the right to require the Company to redeem any of the Series A redeemable convertible preferred stock at the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price of the Company's common stock as of December 31, 2016. To date, the holders of the Series A redeemable convertible preferred stock have neither exercised nor waived this right and accordingly this right may be exercised at any time. As of December 31, 2016, the Company did not fail any non-financial covenants related to the Company's Series A redeemable convertible preferred stock.

Holders of the Series A redeemable convertible preferred stock are entitled to receive quarterly dividends at the Prime Rate (Wall Street Journal Eastern Edition) plus 5% (up to a maximum amount of 10%), payable in cash, provided, that if the Company will not have at least \$1.0 million in positive cash flow for any calendar quarter after giving effect to the payment of such dividends, the Company, at its election, can pay such dividends in whole or in part in cash, provided that cash flow from operations is not negative, and the remainder can be accrued or paid in common stock to the extent certain equity conditions are satisfied. During 2016, the Company issued 624,009 shares of the Company's common stock as payment for the fourth quarter 2015 and the first three quarters of 2016 dividends. As of December 31, 2016, due to the lack of sufficient surplus to pay dividends as required by the Delaware General Business Corporation Law, the Company was not permitted to pay the fourth quarter dividend in cash or through the issuance of the Company's common stock and accrued the fourth quarter 2016 dividend. As of December 31, 2016, the

Company's liability for dividends to the holders of the Series A redeemable convertible preferred stock totaled \$195,904.

Each share of redeemable convertible preferred stock has a vote equal to the number of shares of common stock into which the redeemable convertible preferred stock would be convertible as of the record date of September 13, 2013. The Company's closing stock price on the record date was \$1.23 per share which results in voting power of an aggregate of 7,317,073 shares. In addition, holders of a majority of the redeemable convertible preferred stock must approve certain actions, including any amendments to the Company's charter or bylaws that adversely affects the voting powers, preferences or other rights of the redeemable convertible preferred stock; payment of dividends or distributions; any liquidation, capitalization, reorganization or any other fundamental transaction of the Company; issuance of certain equity securities senior to or in parity with the redeemable convertible preferred stock as to dividend rights, redemption rights, liquidation preference and other rights; issuances of equity below the conversion price; any liens or borrowings other than non-convertible indebtedness from standard commercial lenders which does not exceed 80% of the Company's accounts receivable; and the redemption or purchase of any capital stock of the Company.

The Company has classified the Series A redeemable convertible preferred stock as temporary equity in the financial statements as it is subject to redemption at the option of the holder under certain circumstances. As a result of the Company's analysis of all the embedded conversion and put features within the Series A redeemable convertible preferred stock, the contingent redemption put options in the Series A redeemable convertible preferred stock were determined to not be clearly and closely related to the debt-type host and also did not meet any other scope exceptions for derivative accounting. Therefore the contingent redemption put options are being accounted for as derivative instruments and the fair value of these derivative instruments were bifurcated from the Series A redeemable convertible preferred stock and recorded as a liability. As of December 31, 2016 and 2015 the fair value of these derivative instruments was \$336,862 and \$82,024, respectively, and were included in "other long-term liabilities" within the consolidated balance sheets. The loss on the change in fair value of these derivative instruments for 2016 of \$254,838 and the gain on the change in fair value of these derivative instruments for 2015 of \$55,147, were included in "interest and other loss, net" within the consolidated statement of operations.

At the time of issuance the Company recorded transaction costs, a beneficial conversion feature and the fair value allocated to the embedded derivatives as discounts to the Series A redeemable convertible preferred stock. These costs are being accreted to the Series A redeemable convertible preferred stock using the effective interest method through the stated redemption date of August 5, 2017, which represents the earliest redemption date of the instrument. The Company included deductions of \$1,181,446 and \$587,613 as accretion adjustments to net loss attributable to common stockholders on the statement of operations and in determining loss per share for the years ended December 31, 2016 and 2015, respectively. The Company also included deductions of \$777,890 and \$765,203 as adjustments to net loss attributable to common shareholders on the statement of operations and in determining loss per share for the years ended December 31, 2016 and 2015, respectively, for dividends (including accrued dividends) on the Series A redeemable convertible preferred stock during the period.

#### (9) Stockholders' Equity

##### Stock Repurchase Activity

On April 22, 2015, the Company's Board of Directors (the "Board") approved a new stock buy-back program (the "Repurchase Program"). The Repurchase Program authorizes management to repurchase in the aggregate up to five million shares of the Company's common stock. Repurchases may be made by the Company from time to time in open-market or privately-negotiated transactions as permitted by securities laws and other legal requirements, and subject to market conditions and other factors. The Repurchase Program superseded and replaced the Company's prior stock buy-back program. The Repurchase Program does not obligate the Company to make repurchases at any specific time or situation. The Company was required to obtain approvals from the Series A redeemable convertible preferred stockholders for the Repurchase Program. The Repurchase Program does not have an expiration date and may be amended or terminated by the Board at any time without prior notice.

During the year ended December 31, 2016, the Company repurchased no shares of its common stock. During the year ended December 31, 2015, the Company repurchased 92,161 shares of its common stock at an aggregate purchase price of \$137,858 or \$1.50 per share. As of December 31, 2016, the Company had the authorization to repurchase 4,907,839 shares of its common stock based upon its judgment and market conditions.

##### Independent Marketing Agreement

On July 24, 2015, the Company entered into an Independent Marketing Agreement with RFN Prime Marketing Inc., to provide among other items, certain sales and marketing deliverables to the Company and originally entitled RFN Prime Marketing Inc., to receive up to 2.55 million shares of restricted Company common stock which will be issued based on certain milestone achievements and/or transactions over a twenty-four month period. The restricted

Company common stock will be valued as they are earned, and the resulting value will be recorded as an expense in the period in which the performance milestone is met and the stock is earned. As of December 31, 2016, none of the performance milestones have been met, and therefore no restricted Company common stock has been issued.

(10) Share-Based Payment Arrangements

On April 27, 2016, the Company's stockholders adopted the FalconStor Software, Inc. 2016 Incentive Stock Plan (the "2016 Plan"). The 2016 Plan is administered by the Compensation Committee and initially provided for the issuance of up to 1,500,000 shares of the Company's common stock upon the exercise of options or upon the grant of shares with such restrictions as determined by the Compensation Committee to the employees, consultants and non-employee directors of the Company. Exercise prices of the options must be equal to the fair market value of the common stock on the date of grant. Options granted have terms of ten years. Shares of restricted stock have the terms and conditions set by the Board of Directors and are forfeitable until the terms of the grant have been satisfied. The 2016 Plan replaces the Company's 2006 Incentive Stock Plan.

On April 27, 2016, the Company’s stockholders adopted the FalconStor Software, Inc. 2016 Outside Directors Equity Compensation Plan (the “2016 Director Plan”). The 2016 Director Plan is administered by the Board of Directors and provides for the issuance of up to 400,000 shares of the Company’s common stock upon the exercise of options or upon the grant of shares with such restrictions as determined by the Board of Directors to the non-employee directors of the Company. Exercise prices of the options must be equal to the fair market value of the common stock on the date of grant. Options granted have terms of ten years. Shares of restricted stock have the terms and conditions set by the Board of Directors and are forfeitable until the terms of the grant have been satisfied. The 2016 Director Plan replaces the 2013 Outside Directors Equity Compensation Plan.

The following table summarizes the plans under which the Company granted equity compensation as of December 31, 2016:

Name of Plan	Shares Authorized	Shares Available for Grant	Shares Outstanding	Last Date for Grant of Shares
FalconStor Software, Inc., 2016 Incentive Stock Plan	2,166,606	1,779,170	220,000	April 27, 2026
FalconStor Software, Inc., 2016 Outside Directors Equity Compensation Plan	400,000	380,000	20,000	April 27, 2019

On June 30, 2016, the total shares available for issuance under the 2016 Plan totaled 1,500,000. Pursuant to the 2016 Plan, if, on July 1<sup>st</sup> of any calendar year in which the 2016 Plan is in effect, the number of shares of stock as to which options, restricted shares and restricted stock units may be granted under the 2016 Plan is less than five percent (5%) of the number of outstanding shares of stock, then the number of shares of stock available for issuance under the 2016 Plan is automatically increased so that the number equals five percent (5%) of the shares of stock outstanding. In no event shall the number of shares of stock subject to the 2016 Plan in the aggregate exceed twenty million shares, subject to adjustment as provided in the 2016 Plan. On July 1, 2016, the total number of outstanding shares of the Company’s common stock totaled 43,332,111. Pursuant to the 2016 Plan, the total shares available for issuance under the 2016 Plan thus increased 666,606 to 2,166,606 shares available for issuance as July 1, 2016.

The following table summarizes the Company’s equity plans that have expired but that still have equity awards outstanding as of December 31, 2016:

Name of Plan	Shares Available for Grant	Shares Outstanding
FalconStor Software, Inc., 2006 Incentive Stock Plan	—	5,060,590
FalconStor Software, Inc., 2013 Outside Directors Equity Compensation Plan	—	20,200
FalconStor Software, Inc., 2007 Outside Directors Equity Compensation Plan	—	160,000
FalconStor Software, Inc., 2000 Stock Option Plan	—	147,500

All outstanding options granted under the Company’s equity plans have terms of ten years

A summary of the Company’s stock option activity for 2016 is as follows:

	Number of Options	Weighted Average Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Options Outstanding at December 31, 2015	4,855,941	\$ 3.53	4.76	\$ 632,581
Granted	870,000	\$ 1.27		
Exercised	—	\$ —		

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Forfeited	(1,714,120)	\$ 2.65		
Expired	(520,331 )	\$ 5.05		
Options Outstanding at December 31, 2016	3,491,490	\$ 3.18	4.83	\$—
Options Exercisable at December 31, 2016	2,671,990	\$ 3.77	3.47	\$—
Options Expected to Vest after December 31, 2016 (1)	573,650	\$ 1.25	9.29	\$—

(1) Options expected to vest after December 31, 2016 reflect an estimated forfeiture rate

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Stock option exercises are fulfilled with new shares of common stock.

The Company recognized share-based compensation expense for all awards issued under the Company's stock equity plans in the following line items in the consolidated statement of operations:

	Years ended December 31,	
	2016	2015
Cost of revenue - Product	\$—	\$—
Cost of revenue - Support and Service	80,903	98,776
Research and development costs	1,653,336	806,348
Selling and marketing	241,481	285,787
General and administrative	352,498	738,466
	\$2,328,218	\$1,929,377

The Company did not recognize any tax benefits related to share-based compensation expense during the years ended December 31, 2016 and 2015.

The Company has the ability to issue both restricted stock and restricted stock units. The fair value of the restricted stock awards and restricted stock units are expensed at either (i) the fair value per share at date of grant (directors, officers and employees), or (ii) the fair value per share as of each reporting period (non-employee consultants). A summary of the total stock-based compensation expense related to restricted stock awards and restricted stock units, which is included in the Company's total share-based compensation expense for each respective year, is as follows:

	Years ended December 31,	
	2016	2015
Directors, officers and employees	\$598,549	\$827,055
Non-employee consultants	96,237	—
	\$694,786	\$827,055

A summary of the Company's restricted stock activity for 2016 is as follows:

	Number of Restricted Stock Awards
Non-Vested at December 31, 2015	3,116,400
Granted	737,436
Vested	(565,511 )
Forfeited	(1,151,525)
Non-Vested at December 31, 2016	2,136,800

On July 28, 2015 the Company granted 500,000 shares of restricted stock to the President and Chief Executive Officer of the Company. The restricted shares have terms of 10 years. The restrictions of the restricted stock lapse upon the Company's achievement of performance criteria related to the Company's Common Stock closing trading price. The fair value of the common stock price market condition was calculated using the Monte Carlo simulation model resulting in a weighted average fair value of \$1.05 per share. Share-based compensation expense for the common stock price market condition is being recorded straight-line over the service period derived from the Monte Carlo simulation since the awards exercisability depends entirely on achieving a market condition. The explicit service period and the service period derived from the Monte Carlo simulation were the same for the grant.



Restricted stock and restricted stock units are fulfilled with new shares of common stock. The total intrinsic value of restricted stock for which the restrictions lapsed during the years ended December 31, 2016 and 2015 was \$637,404 and \$447,777, respectively.

Options granted to non-employee consultants have exercise prices equal to the fair market value of the stock on the date of grant and a contractual term of ten years. Restricted stock awards granted to non-employee consultants have a contractual term equal to the lapse of restriction(s) of each specific award. Vesting periods for share-based awards granted to non-employee consultants range from immediate vesting to three years depending on service requirements. A summary of the total stock-based compensation expense related to share-based awards granted to non-employee consultants, which is included in the Company's total share-based compensation expense for each respective period, is as follows:

	Years ended	
	December 31,	
	2016	2015
Non-qualified stock options	\$(5,915 )	\$73,539
Restricted stock awards	96,237	—
	\$90,322	\$73,539

On March 7, 2016, the Company issued an aggregate of 507,070 shares of the Company's common stock to Cumulus Logic, LLC, as a milestone payment pursuant to the terms of a Software License and Development Agreement between the Company and Cumulus Logic, LLC. The shares have an aggregate value of \$765,000 based on the 30 day trading day average of the Company's common stock immediately prior to July 29, 2015, the date that the License and Development Agreement was executed. The Company recognized share-based compensation expense of \$699,757 related to this transaction based on the fair value of the common stock on the date of issue of \$1.38. This expense was included in "research and development costs" in the accompanying consolidated statements of operations.

On April 1, 2016, the Company issued an aggregate of 591,582 shares of the Company's common stock to Cumulus Logic, LLC, as the final milestone payment pursuant to the terms of a Software License and Development Agreement between the Company and Cumulus Logic, LLC. The shares have an aggregate value of \$892,500 based on the 30 day trading day average of the Company's common stock immediately prior to July 29, 2015, the date that the License and Development Agreement was executed. On April 1, 2016, the Company recognized share-based compensation expense of \$786,804 related to this transaction based on the fair value of the common stock on the date of issue of \$1.33. This expense was included in "research and development costs" in the accompanying consolidated statements of operations.

The Company estimates the fair value of share-based payments using the Black-Scholes option-pricing model. For awards with market conditions the Company utilizes the Monte Carlo simulation model to estimate the fair value. The Company believes that these valuation techniques and the approach utilized to develop the underlying assumptions are appropriate in estimating the fair value of the Company's share-based payments granted during the years ended December 31, 2016 and 2015. Estimates of fair value are not intended to predict actual future events or the value ultimately realized by the employees who receive equity awards.

The per share weighted average fair value of share-based payments granted during the years ended December 31, 2016 and 2015 was \$0.95 and \$1.32, respectively. In addition to the exercise and grant date prices of the awards, certain weighted average assumptions that were used to estimate the fair value of share-based payment grants in the respective periods are listed in the table below:

	Years ended December 31,	
	2016	2015
Expected dividend yield	0%	0%
Expected volatility	55%	55 - 56%
Risk-free interest rate	1.29 - 1.36%	1.35 - 1.67%
Expected term (years)	5.5	5.5
Discount for post-vesting restrictions	N/A	N/A

Options granted to officers, employees and directors during fiscal 2016 and 2015 have exercise prices equal to the fair market value of the stock on the date of grant, a contractual term of ten years, and a vesting period generally of three years. Based on each respective group's historical vesting experience and expected trends, the estimated forfeiture rate for officers, employees, and directors, for fiscal years 2016 and 2015 was 30%, 30% and 0%, respectively.

The Company estimates expected volatility based primarily on historical daily volatility of the Company's stock and other factors, if applicable. The risk-free interest rate is based on the United States treasury yield curve in effect at the time of grant. The expected option term is the number of years that the Company estimates that options will be outstanding prior to exercise. The expected term of the awards was determined based upon an estimate of the expected term of "plain vanilla" options as prescribed in SEC Staff Accounting Bulletin ("SAB") No. 110.

As of December 31, 2016, there was approximately \$1.4 million total unrecognized compensation cost related to the Company's unvested stock options, restricted stock and restricted stock unit awards granted under the Company's stock plans. The unrecognized compensation cost is expected to be recognized over a weighted-average period of 1.39 years.

As of December 31, 2016, the Company had 7,787,460 shares of common stock reserved for issuance upon the exercise or vesting of stock options, restricted stock and restricted stock units.

#### (11) Inventories

The Company's inventories consist of finished systems. Inventories are stated at the lower of cost (first-in, first-out) or market, not in excess of net realizable value. Inventories are as follows:

	December 31, 2016	December 31, 2015
Finished systems	\$ 6,181	\$ 70,534
Total Inventory	\$ 6,181	\$ 70,534

As of December 31, 2016 and 2015, the Company had not recorded any reserve for excess and/or obsolete inventories in arriving at estimated net realizable value of its inventory.

#### (12) Commitments and Contingencies

The Company has an operating lease covering its corporate office facility that expires in April 2021. The Company also has several additional operating leases related to offices in foreign countries. The expiration dates for these leases range from 2017 through 2018. The following is a schedule of future minimum lease payments for all operating leases as of December 31, 2016:

2017	\$1,655,155
2018	1,398,354
2019	1,402,181
2020	1,444,247
2021	491,020
Thereafter—	
	\$6,390,957

These leases require the Company to pay its proportionate share of real estate taxes and other common charges. Total rent expense for operating leases was \$2.1 million and \$2.4 million for the years ended December 31, 2016 and 2015, respectively.

The Company typically provides its customers a warranty on its software products for a period of no more than 90 days. Such warranties are accounted for in accordance with the authoritative guidance issued by the FASB on contingencies. For the year ended December 31, 2016, the Company has not incurred any costs related to warranty obligations.

Under the terms of substantially all of its software license agreements, the Company has agreed to indemnify its customers for all costs and damages arising from claims against such customers based on, among other things, allegations that the Company's software infringes the intellectual property rights of a third party. In most cases, in the event of an infringement claim, the Company retains the right to (i) procure for the customer the right to continue using the software; (ii) replace or modify the software to eliminate the infringement while providing substantially equivalent functionality; or (iii) if neither (i) nor (ii) can be reasonably achieved, the Company may terminate the license agreement and refund to the customer a pro-rata portion of the license fee paid to the Company. Such indemnification provisions are accounted for in accordance with the authoritative guidance issued by the FASB on guarantees. From time to time, in the ordinary course of business, the Company receives claims for indemnification, typically from OEMs. The Company is not currently aware of any material claims for indemnification.

Upon certain triggering events, such as bankruptcy, insolvency or a material adverse effect, failure to achieve minimum financial covenants or failure of the Company to issue shares upon conversion of the Series A redeemable convertible preferred stock in accordance with its obligations, the Series A redeemable convertible preferred stockholders may require the Company to redeem all or some of the Series A redeemable convertible preferred stock at a price equal to the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price as of the occurrence of the triggering event. On or after August 5, 2017, each Series A redeemable convertible preferred stockholder can require the Company to redeem its Series A redeemable convertible preferred stock in cash at a price equal to 100% of the stated value being redeemed plus accrued and unpaid dividends. As of December 31, 2016, the Company was not in compliance with the financial covenants of the Series A redeemable convertible preferred stock for two consecutive quarters, which provided the Series A redeemable convertible preferred stockholders the right to require the Company to redeem any of the Series A redeemable convertible preferred stock at the greater of 100% of the stated value plus accrued and unpaid dividends or the product of the number of shares of common stock underlying the Series A redeemable convertible preferred stock and the closing price of the Company's common stock as of December 31, 2016. To date, the holders of the Series A redeemable convertible preferred stock have neither exercised nor waived this right and accordingly this right may be exercised at any time. As of December 31, 2016, the Company did not fail any non-financial covenants related to the Company's Series A redeemable convertible preferred stock.

On July 24, 2015, the Company entered into an Independent Marketing Agreement with RFN Prime Marketing Inc., to provide among other items, certain sales and marketing deliverables to the Company and originally entitled RFN Prime Marketing Inc., to receive up to 2.55 million shares of restricted Company common stock which will be issued based on certain milestone achievements and/or transactions over a twenty-four month period. The restricted Company common stock will be valued as they are earned, and the resulting value will be recorded as an expense in the period in which the performance milestone is met and the stock is earned. As of December 31, 2016, none of the performance milestones have been met, and therefore no restricted Company common stock has been issued.

On July 24, 2015, the Company renewed its Employment Agreement (“Quinn Employment Agreement”) with Gary Quinn. Pursuant to the Quinn Employment Agreement, the Company agreed to continue to employ Mr. Quinn as President and Chief Executive Officer of the Company effective July 24, 2015, at an annual salary of \$475,000 per annum, which automatically renews every twelve (12) months unless either party gives notice to the other that it will not renew at least sixty (60) days prior to the end of the term. The Quinn employment Agreement automatically renewed on July 24, 2016 for an additional twelve (12) months. Among other items, the Quinn Employment Agreement also provided for the grant of 500,000 restricted shares which vest 50% and 50% based upon the achievement of two predetermined milestones of the Company's Common Stock closing trading price for ninety (90) consecutive trading days. The 500,000 restricted shares were granted to Mr. Quinn by the Company's Compensation Committee on July 28, 2015. As of December 31, 2016, neither of the milestones related to this award have been met.

From time to time, the Company has undertaken restructuring and expense control measures to support its business performance and to align the Company's cost structure with its resources. During the third quarter of 2013, the Company adopted a restructuring plan intended to better align the Company's cost structure with the skills and resources required to more effectively execute the Company's long-term growth strategy and to support revenue levels the Company expected to achieve on a go forward basis (the "2013 Plan"). In connection with the 2013 Plan, the Company eliminated over 100 positions worldwide, implemented tighter expense controls, ceased non-core activities and closed or downsized several facilities. As of December 31, 2016 the restructuring accrual totaled \$0.8 million. The 2013 Plan was substantially completed by December 31, 2014; however, the Company expects the remaining accrued severance related costs to be paid once final settlement litigation is completed, which can be at various times over the next three to twenty-four months.

In addition, as of December 31, 2016, our liability for uncertain tax positions totaled \$328,739. At this time, the settlement period for the positions, including related accrued interest, cannot be determined.

(13) Derivative Financial Instruments

The Company does not use derivative financial instruments for trading or speculative purposes. As of December 31, 2016 and 2015, the Company had no foreign currency forward contracts outstanding. The Company did not utilize foreign currency forward contracts during the years ended December 31, 2016 and 2015.

As a result of the Company's analysis of all the embedded conversion and put features within its Series A redeemable convertible preferred stock, the contingent redemption put options in the Series A redeemable convertible preferred stock were determined to not be clearly and closely related to the debt-type host and also did not meet any other scope exceptions for derivative accounting. Therefore the contingent redemption put options are being accounted for as derivative instruments and the fair value of these derivative instruments were bifurcated from the Series A redeemable convertible preferred stock and recorded as a liability. At the time of issuance of the Series A redeemable convertible preferred stock the fair value of these derivative instruments were recorded as a reduction to preferred stock. As of December 31, 2016 and 2015, the fair value of these derivative instruments was \$336,862 and \$82,024, respectively, and were included in "other long-term liabilities" within the consolidated balance sheets. The loss on the change in fair value of these derivative instruments for 2016 of \$254,838 and the gain on the change in fair value of these derivative instruments for 2015 of \$55,147, were included in "interest and other loss, net" within the consolidated statement of operations.

(14) Litigation

In view of the inherent difficulty of predicting the outcome of litigation, particularly where the claimants seek very large or indeterminate damages, the Company generally cannot predict what the eventual outcome of the pending matters will be, what the timing of the ultimate resolution of these matters will be, or what the eventual loss, fines or penalties related to each pending matter may be.

In accordance with the authoritative guidance issued by the FASB on contingencies, the Company accrues anticipated costs of settlement, damages and losses for claims to the extent specific losses are probable and estimable. The Company records a receivable for insurance recoveries when such amounts are probable and collectable. In such cases, there may be an exposure to loss in excess of any amounts accrued. If, at the time of evaluation, the loss contingency related to a litigation is not both probable and estimable, the matter will continue to be monitored for further developments that would make such loss contingency both probable and estimable and, the Company will expense these costs as incurred. If the estimate of a probable loss is a range and no amount within the range is more likely, the Company will accrue the minimum amount of the range.

Other Claims

The Company is subject to various legal proceedings and claims, asserted or unasserted, which arise in the ordinary course of business. While the outcome of any such matters cannot be predicted with certainty, such matters are not expected to have a material adverse effect on the Company's financial condition or operating results.

The Company continues to assess certain litigation and claims to determine the amounts, if any, that the Company believes may be paid as a result of such claims and litigation and, therefore, additional losses may be accrued and paid in the future, which could materially adversely impact the Company's financial results, its cash flows and its cash reserves.



## (15) Restructuring Costs

From time to time, the Company has undertaken restructuring and expense control measures to support its business performance and to align the Company's cost structure with its resources. In the third quarter of 2013, the Company adopted the 2013 Plan to better align the Company's cost structure with the skills and resources required to more effectively execute the Company's long-term growth strategy and to support revenue levels the Company expected to achieve on a go forward basis. In connection with the 2013 Plan, the Company eliminated over 100 positions worldwide, implemented tighter expense controls, ceased non-core activities and closed or downsized several facilities. The 2013 Plan was substantially completed by December 31, 2014; however, the Company expects the remaining accrued severance related costs to be paid once final settlement litigation is completed, which can be at various times over the next three to twenty-four months. The total amount incurred under the 2013 Plan for the years ended December 31, 2016 and 2015, was \$177,389 and \$172,995, respectively.

Accrued restructuring costs as of December 31, 2016 associated with the 2013 Plan is as follows:

	Severance related costs	Facility and other costs	Total
Original charge	\$3,179,131	\$426,889	\$3,606,020
Utilized/Paid	(2,067,554 )	(231,973 )	(2,299,527 )
Balance at December 31, 2013	\$1,111,577	\$194,916	\$1,306,493
Provisions/Additions	365,174	770,136	1,135,310
Utilized/Paid	(653,325 )	(759,563 )	(1,412,888 )
Balance at December 31, 2014	\$823,426	\$205,489	\$1,028,915
Provisions/Additions	55,527	117,468	172,995
Utilized/Paid	(161,313 )	(307,935 )	(469,248 )
Balance at December 31, 2015	\$717,640	\$15,022	\$732,662
Provisions/Additions	165,228	12,161	177,389
Utilized/Paid	(36,531 )	(27,183 )	(63,714 )
Balance at December 31, 2016	\$846,337	\$—	\$846,337

The severance related liabilities and facility and other liabilities are included within "accrued expenses" and "accounts payable" in the accompanying consolidated balance sheets. The expenses under the 2013 Plan are included within "restructuring costs" in the accompanying consolidated statements of operations.

## (16) Employee Benefit Plans

## Defined Contribution Plan

Effective July 2002, the Company established a voluntary savings and defined contribution plan (the "Plan") under Section 401(k) of the Internal Revenue Code. This Plan covers all U.S. employees meeting certain eligibility requirements and allows participants to contribute a portion of their annual compensation. Employees are 100% vested in their own contributions. For the years ended December 31, 2016 and 2015, the Company did not make any contributions to the Plan.

Effective July 1, 2007, the Company, in accordance with the labor pension system in Taiwan, contributes 6% of salaries to individual pension accounts managed by the Bureau of Labor Insurance. The plan covers all Taiwan employees that elect the new pension system and all employees hired after July 1, 2005. For the years ended December 31, 2016 and 2015, the Company contributed approximately \$35,000 and \$77,000, respectively.

Defined Benefit Plan

The Company has a defined benefit plan covering employees in Taiwan. The Company accounts for its defined benefit plan in accordance with the authoritative guidance issued by the FASB on retirement benefits, which requires the Company to recognize the funded status of its defined benefit plan in the accompanying consolidated balance sheet, with the corresponding adjustment to accumulated other comprehensive income, net of tax.

At December 31, 2016 and 2015, \$28,675 and \$27,186, respectively, is included in accumulated other comprehensive (loss) income for amounts that have not yet been recognized in net periodic pension cost. These amounts include the following: unrecognized transition obligation of \$10,620 and \$15,615 at December 31, 2016 and 2015, respectively, and unrecognized actuarial gains of \$39,295 and \$42,800 at December 31, 2016 and 2015, respectively. During 2016, the total amount recorded in other comprehensive (loss) income related to the pension plan was \$1,489 (net of tax), which consisted of an actuarial loss of (\$3,830) and the recognition of \$5,319 of transition obligations recognized during 2016 as a component of net periodic pension cost. The transition obligation and actuarial gain included in accumulated other comprehensive (loss) income and expected to be recognized in net periodic pension cost for the year ended December 31, 2017, is \$5,319 and \$1,188 respectively.

Pension information for the years ended December 31, 2016 and 2015, is as follows:

	2016	2015
Accumulated benefit obligation	\$190,186	\$149,932
Changes in projected benefit obligation:		
Projected benefit obligation at beginning of year	194,098	193,144
Interest cost	3,471	4,348
Actuarial loss	1,702	2,549
Benefits paid	—	—
Service cost	—	1,240
Currency translation	3,897	(7,183 )
Projected benefit obligation at end of year	\$203,168	\$194,098
Changes in plan assets:		
Fair value of plan assets at beginning of year	\$126,334	\$120,018
Actual return on plan assets	1,180	3,129
Benefits paid	—	—
Employer contributions	6,860	7,864
Currency translation	2,528	(4,677 )
Fair value of plan assets at end of year	\$136,902	\$126,334
Funded status	\$66,266	\$67,764
Components of net periodic pension cost:		
Interest cost	\$3,471	\$4,348
Expected return on plan assets	(2,260 )	(2,702 )
Amortization of net loss	3,725	3,684
Service cost	—	1,240
Net periodic pension cost	\$4,936	\$6,570

The Company makes contributions to the plan so that minimum contribution requirements, as determined by government regulations, are met. Company contributions of approximately \$7,000 are expected to be made during 2017. Benefit payments of approximately \$221,000 are expected to be paid in 2017 through 2026.

The Company utilized the following assumptions in computing the benefit obligation at December 31, 2016 and 2015 as follows:

	Years ended	
	December 31,	
	2016	2015
Discount rate	1.50%	1.75%
Rate of increase in compensation levels	1.00%	2.00%
Expected long-term rate of return on plan assets	1.50%	1.75%



## (17) Segment Reporting and Concentrations

The Company is organized in a single operating segment for purposes of making operating decisions and assessing performance. Revenues from the United States to customers in the following geographical areas for the years ended December 31, 2016 and 2015, and the location of long-lived assets as of December 31, 2016 and 2015, are summarized as follows:

	Years ended December 31,	
	2016	2015
Revenues:		
Americas	\$8,827,878	\$23,308,240
Asia Pacific	11,651,487	12,934,261
Europe, Middle East, Africa and Other	9,783,981	12,328,490
Total Revenues	\$30,263,346	\$48,570,991
	December 31,	
	2016	2015
Long-lived assets:		
Americas	\$6,525,612	\$7,519,787
Asia Pacific	890,051	650,633
Europe, Middle East, Africa and Other	218,316	168,241
Total long-lived assets	\$7,633,979	\$8,338,661

For the year ended December 31, 2016, the Company had one customer, Hitachi Data Systems, that accounted for 11% of total revenue. For the year ended December 31, 2015, the Company had two customers, Violin Memory, Inc., and Hitachi Data Systems, that accounted for 23% and 10% of total revenue, respectively.

As of December 31, 2016, the Company had three customers, Datang Telecom International Technology Co., Ltd, Hitachi Data Systems and Huawei Technologies Co., Ltd, that accounted for 15%, 14% and 12% of the gross accounts receivable balance, respectively. As of December 31, 2015, the Company had two customers, Hitachi Data Systems and Datang Telecom International Technology Co., Ltd, that accounted for 12% and 11% of the gross accounts receivable balance, respectively.

## (18) Valuation and Qualifying Accounts – Allowance for Returns and Doubtful Accounts

Period Ended	Balance at Beginning of Period	Charges / (Benefits) to Revenue	(Increases) Deductions	Balance at End of Period
December 31, 2016	\$ 191,285	104,228	34,837	\$260,676
December 31, 2015	\$ 119,530	(6,745 )	(78,500 )	\$191,285

Note: Charges/benefits to the allowance for doubtful accounts are recorded within “general and administrative expenses” within the consolidated statements of operations. Charges/benefits to the return reserve for product and service are recorded within “product revenue” within the consolidated statements of operations.

(19) Related Party Transactions

William Miller, a member of the Company's Board of Directors, is the Chairman and Chief Executive Officer of X-IO Technologies, Inc. ("X-IO Technologies"), an enterprise storage company. For the year ended December 31, 2016, the Company sold product to X-IO Technologies totaling \$141,535.

Martin M. Hale, Jr., a member of the Company's Board of Directors, is a general partner of HCP-FVA, the holder of all of the Company's Series A redeemable convertible preferred stock. The Series A redeemable convertible preferred stock was purchased by Hale Capital Partners, LP, of which Mr. Hale is a general partner, pursuant to a September 16, 2013 stock purchase agreement with the Company at a time when Mr. Hale was not a director of the Company. Hale Capital Partners, LP subsequently assigned all of its rights in the Series A redeemable convertible preferred stock to HCP-FVA. Under the terms of the Certificate of Designations, the holders of the Series A convertible preferred stock are entitled, as a group, to nominate and to elect up to two directors so long as at least 85% of the Company's Series A redeemable convertible preferred stock is outstanding. HCP-FVA, the sole holder of the Series a convertible preferred stock, nominated and elected Mr. Hale in September 2013 and Michael P. Kelly on October 29, 2014, to the Company's Board of Directors.

Seth Oxenhorn, the son of Eli Oxenhorn, the Former Chairman of our Board of Directors, was Vice President of Strategic Alliances for the Company through his resignation on October 1, 2016. This was a non-executive role and Seth Oxenhorn was not an executive officer of the Company. During 2016, Seth Oxenhorn received total compensation of \$249,300, inclusive of salary, commissions, severance and equity awards. All of such compensation earned by Seth Oxenhorn was in accordance with the Company's compensation plan for all personnel in similar positions.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

The Company maintains “disclosure controls and procedures,” as such term is defined in Rules 13a-15e and 15d-15e of the Securities and Exchange Act of 1934, as amended (the “Exchange Act”), that are designed to ensure that information required to be disclosed in its reports, pursuant to the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to its management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding the required disclosures. In designing and evaluating the disclosure controls and procedures, management has recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurances of achieving the desired control objectives, and management necessarily is required to apply its judgment in evaluating the cost benefit relationship of possible controls and procedures.

The Company’s Chief Executive Officer (its principal executive officer) and Chief Financial Officer (its principal finance officer and principal accounting officer) have evaluated the effectiveness of its “disclosure controls and procedures” as of the end of the period covered by this Annual Report on Form 10-K. Based on their evaluation, the principal executive officer and principal financial officer concluded that its disclosure controls and procedures are effective as of the end of the period covered by this report.

Internal Control Over Financial Reporting

Management’s Report on Internal Control Over Financial Reporting

The Company’s management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company; as such term is defined in Rules 13a-15(f) under the Securities and Exchange Act of 1934, as amended. To evaluate the effectiveness of the Company’s internal control over financial reporting, the Company’s management uses the Integrated Framework (2013) adopted by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”).

The Company’s management has assessed the effectiveness of the Company’s internal control over financial reporting as of December 31, 2016, using the COSO framework (2013). The Company’s management has determined that the Company’s internal control over financial reporting is effective as of that date.

There were no changes in the Company’s internal controls over financial reporting during the Company’s last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company’s internal control over financial reporting.

The registered public accounting firm that audited the financial statements included in this annual report has issued an attestation report on the Company’s internal control over financial reporting.

Item 9B. Other Information

On March 8, 2017, the Company's Board of Directors appointed Daniel Murale to serve as the Company's Executive Vice President, Chief Financial Officer and Treasurer. Mr. Murale served as Vice President of Finance and Interim

Chief Financial Officer since September 15, 2016 and Director of Finance from June 2013 until September 2016. In connection with such appointment, the Compensation Committee of the Board of Directors increased the salary of Mr. Murale from \$200,000 per annum to \$225,000 per annum effective March 8, 2017.



## PART III

### Item 10. Directors, Executive Officers and Corporate Governance

Information called for by Part III, Item 10, regarding the Registrant's directors will be included in our Proxy Statement relating to our annual meeting of stockholders scheduled to be held in May 2017, and is incorporated herein by reference. The information appears in the Proxy Statement under the captions "Election of Directors", "Management", "Executive Compensation", "Section 16 (a) Beneficial Ownership Reporting Compliance", and "Committees of the Board of Directors." The Proxy Statement will be filed within 120 days of December 31, 2016, our year-end.

### Item 11. Executive Compensation

Information called for by Part III, Item 11, will be included in our Proxy Statement relating to our annual meeting of stockholders scheduled to be held in May 2017, and is incorporated herein by reference. The information appears in the Proxy Statement under the captions "Executive Compensation", "Director Compensation", "Compensation Committee Interlocks and Insider Participation", "Compensation Committee Report" and "Committees of the Board of Directors." The Proxy Statement will be filed within 120 days of December 31, 2016, our year-end.

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

Information regarding Securities Authorized for Issuance Under Equity Compensation Plans is included in Item 4 and is incorporated herein by reference. All other information called for by Part III, Item 12, will be included in our Proxy Statement relating to our annual meeting of stockholders scheduled to be held in May 2017, and is incorporated herein by reference. The information appears in the Proxy Statement under the caption "Beneficial Ownership of Shares." The Proxy Statement will be filed within 120 days of December 31, 2016, our year-end.

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

Information regarding our relationships and related transactions will be included in our Proxy Statement relating to our annual meeting of stockholders scheduled to be held in May 2017, and is incorporated by reference. The information appears in the Proxy Statement under the caption "Certain Relationships and Related Transactions." The Proxy Statement will be filed within 120 days of December 31, 2016, our year-end.

### Item 14. Principal Accountant Fees and Services

Information called for by Part III, Item 14, will be included in our Proxy Statement relating to our annual meeting of stockholders scheduled to be held in May 2017, and is incorporated herein by reference. The information appears in the Proxy Statement under the caption "Principal Accountant Fees and Services." The Proxy Statement will be filed within 120 days of December 31, 2016, our year-end.

PART IV

Item 15. Exhibits and Financial Statement Schedules

The information required by subsections (a)(1) and (a)(2) of this item are included in the response to Item 8 of Part II of this annual report on Form 10-K.

(b) Exhibits

- 3.1 Restated Certificate of Incorporation, incorporated herein by reference to Exhibit 3.1 to the Registrant's registration statement on Form S-1 (File no. 33-79350), filed on April 28, 1994.
- 3.2 Amended and Restated By-Laws of FalconStor Software, Inc., incorporated herein by reference to Exhibit 3.2 to the Registrant's annual report on Form 10-K for the year ended December 31, 2010, filed on March 14, 2011.
- 3.3 Certificate of Amendment to the Restated Certificate of Incorporation, incorporated herein by reference to Exhibit 3.3 to the Registrant's annual report on Form 10-K for the year ended December 31, 1998, filed on March 22, 1999.
- 3.4 Certificate of Amendment to the Restated Certificate of Incorporation, incorporated herein by reference to Exhibit 3.4 to the Registrant's annual report on Form 10-K for the year ended December 31, 2001, filed on March 27, 2002.
- 3.5 Certificate of Designations, Preferences and Rights of Series A Convertible Preferred Stock, incorporated herein by reference to Exhibit 4.1 to the Registrant's report on Form 8-K dated September 16, 2013.
- 4.1s 2000 Stock Option Plan, as amended May 14, 2004, incorporated herein by reference to Exhibit 4.3 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2004, filed on March 16, 2005.
- 4.2s 2007 Outside Directors Equity Compensation Plan, as amended May 8, 2008, incorporated herein by reference to Exhibit 99.2 to the Registrant's quarterly report on Form 10-Q for the quarter ended June 30, 2008, filed on August 11, 2008.
- 4.3s Amended and Restated 2006 Incentive Stock Plan incorporated herein by reference to Exhibit 4.1 to the Registrant's quarterly report on Form 10-Q for the quarter ended March 31, 2007, filed on May 9, 2007.
- 4.4s Form of Restricted Stock Letter Agreement for Executive Officers, incorporated herein by reference to Exhibit 99.1 to the Registrant's quarterly report on Form 10-Q for the period ended March 31, 2008, filed May 9, 2008.
- 4.5s Form of Restricted Stock Letter Agreement, incorporated herein by reference to Exhibit 4.1 to the Registrant's current report on Form 8-K filed on April 7, 2014.
- 4.6s FalconStor Software Inc., 2013 Outside Directors Equity Compensation Plan, incorporated herein by reference to the Registrant's Proxy Statement on Schedule 14a for the 2013 Annual meeting of Stockholders, filed on March 29, 2013.
- 4.7s FalconStor Software, Inc. 2016 Incentive Stock Plan, incorporated by reference to Exhibit A to the Proxy Statement on Schedule 14A dated March 18, 2016.
- 4.8s FalconStor Software, Inc. 2016 Outside Directors Equity Compensation Plan, incorporated by reference to Exhibit B to the Proxy Statement on Schedule 14A dated March 18, 2016.
- 10.1s Amended and Restated FalconStor Software, Inc., 2005 Key Executive Severance Protection Plan, incorporated herein by reference to Exhibit 99.2 to Registrant's current report on Form 8-K filed on April 7, 2014.
- 10.2s FalconStor Software, Inc., Director Compensation Deferral Plan, effective January 1, 2011, incorporated herein by reference to Registrant's annual report on Form 10-K, for the year ended December 31, 2010, filed, on March 14, 2011.
- 10.3 Agreement of Lease between Huntington Quadrangle 2 LLC and FalconStor Software Inc., dated May 30, 2013, with a commencement date of March 1, 2014, incorporated herein by reference to Exhibit 99.1 to the Registrant's quarterly report on Form 10-Q for the period ended September 30, 2013 filed on November 7, 2013.
- 10.4s Employment Agreement dated July 24, 2015 between the Company and Gary Quinn, incorporated herein by reference to Exhibit 10.1 to the Registrant's quarterly report on Form 10-Q dated July 30, 2015.



- Preferred Stock Purchase Agreement dated as of September 16, 2013 between the Company and Hale Capital Partners, LP, incorporated herein by reference to Exhibit 10.1 to the Registrant's report on Form 8-K dated September 16, 2013.
- Independent Contractor Agreement dated July 24, 2015 between the Company and RFN Prime Marketing Inc., incorporated herein by reference to Exhibit 10.2 to the Registrant's quarterly report on Form 10-Q dated July 30, 2015.
- Change in Registrant's Certifying Accountant, Letter of KPMG LLP, incorporated herein by reference to Exhibit 16.1 to the Registrant's report on Form 8-K dated June 16, 2015.
- Separation Agreement and General Release between FalconStor Software, Inc. and Louis Petrucelly, dated August 30, 2016, incorporated by reference to Exhibit 10.1 to the Form 8-K dated August 30, 2016.
- Key Employee Change in Control Severance Agreement between FalconStor Software, Inc. and Daniel Murale, dated October 5, 2016, incorporated by reference to Exhibit 10.1 to the Form 8-K dated October 11, 2016.
- Amendment No. 1 to Independent Contractor Agreement - RFN Prime Marketing, Inc., dated August 15, 2016, incorporated herein by reference to Exhibit 10.3 to the Registrant's quarterly report on Form 10-Q dated November 3, 2016.
- Subsidiaries of Registrant – FalconStor, Inc., FalconStor AC, Inc., FalconStor Software (Korea), Inc.
- \*Consent of BDO USA, LLP
- \*Certification of the Chief Executive Officer
- \*Certification of the Chief Financial Officer
- \* Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. § 1350)
- \* Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. § 1350)
- The following financial statements from FalconStor Software, Inc's Annual Report on Form 10-K for the year ended December 31, 2016, formatted in XBRL (eXtensible Business Reporting Language):
- (i) Consolidated Balance Sheets – December 31, 2016 and December 31, 2015
  - (ii) Consolidated Statements of Operations – Years Ended December 31, 2016 and 2015
  - (iii) Consolidated Statements of Comprehensive Loss – Years Ended December 31, 2016 and 2015
  - (iv) Consolidated Statements of Stockholders' Deficit – Years Ended December 31, 2016 and 2015
  - (v) Consolidated Statements of Cash Flows – Years Ended December 31, 2016 and 2015
  - (vi) Notes to Consolidated Financial Statements – December 31, 2016

\*- Filed herewith.

s- Denotes management contract or compensatory plan or arrangement.

#### Item 16. Form 10-K Summary

None.



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 Melville, State of New York on March 10, 2017.

FALCONSTOR SOFTWARE, INC.

By: /s/ Gary Quinn March 10, 2017  
Gary Quinn, President and Chief Executive Officer of FalconStor Software, Inc. Date

POWER OF ATTORNEY

FalconStor Software, Inc. and each of the undersigned do hereby appoint Gary Quinn and Daniel Murale, and each of them severally, its or his true and lawful attorney to execute on behalf of FalconStor Software, Inc. and the undersigned any and all amendments to this Annual Report on Form 10-K and to file the same with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission; each of such attorneys shall have the power to act hereunder with or without the other.

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 and on the date indicated.

By: /s/ Gary Quinn March 10, 2017  
Gary Quinn, President and Chief Executive Officer and Director Date  
(principal executive officer)

By: /s/ Daniel Murale March 10, 2017  
Daniel Murale, Executive Vice President, Chief Financial Officer and Treasurer Date  
(principal financial and accounting officer)

By: /s/ Martin Hale Jr. March 10, 2017  
Martin Hale Jr., Director Date

By: /s/ Michael Kelly March 10, 2017  
Michael Kelly, Director Date

By: /s/ Barry A. Rudolph March 10, 2017  
Barry A. Rudolph, Director Date

By: /s/ William D. Miller March 10, 2017  
William D. Miller, Director Date