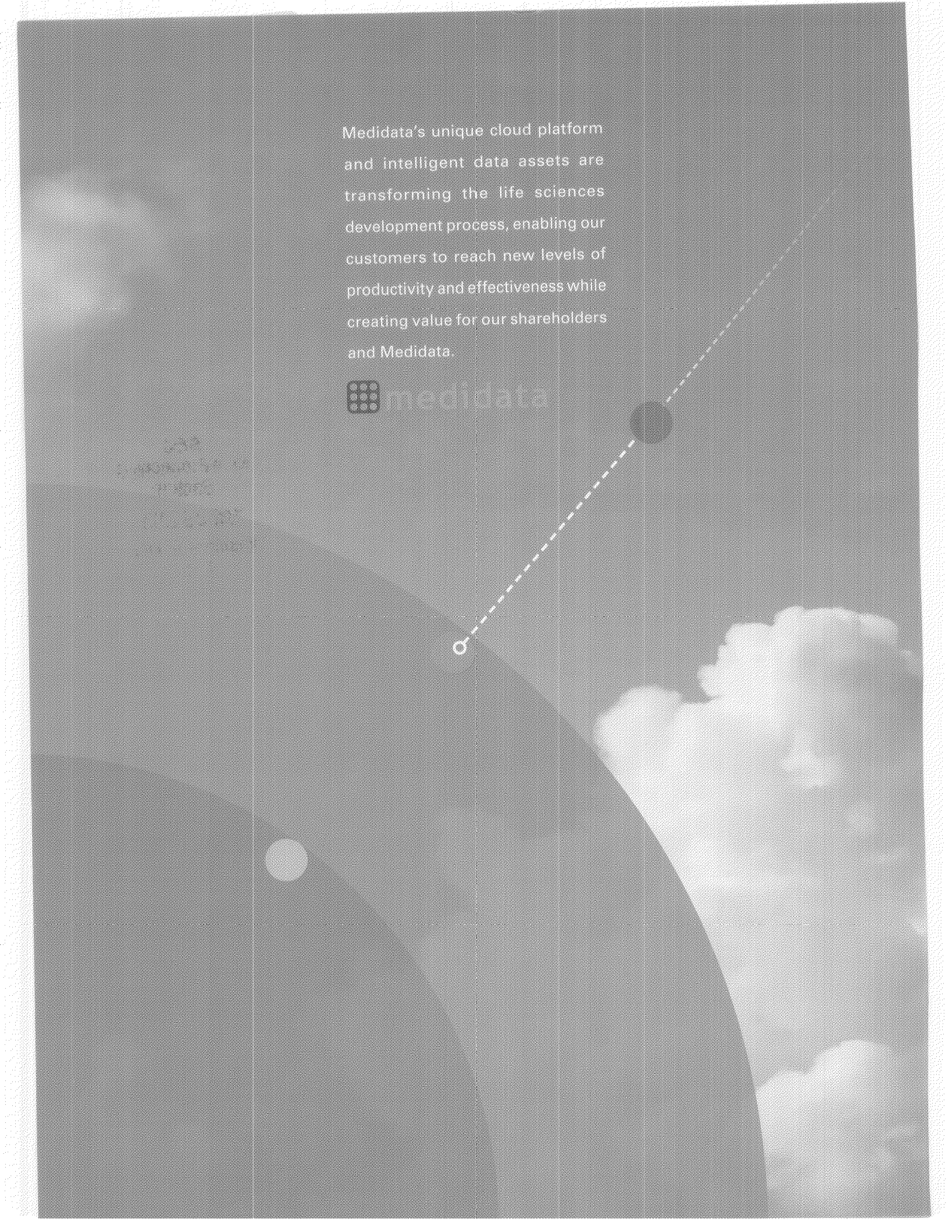
medidata

The future of clinical development

2012 ANNUAL REPORT

Medidata's unique cloud platform and intelligent data assets are transforming the life sciences development process, enabling our customers to reach new levels of productivity and effectiveness while creating value for our shareholders and Medidata.



Tarek Sherif
Chairman & Chief Executive Officer

Dear Medidata Shareholder:

Since being founded 14 years ago, we have been committed to helping our customers to improve the way new drugs are developed, and ultimately to improve the quality of life. We have focused on bringing innovation to our customers, and have been a disruptive and positive force in our industry from our earliest days. 2012 was transformative for Medidata, as we had our best year ever as a public company. Revenue grew to a record $218 million, an 18% year-over-year increase; non-Rave revenue increased 135% year over year to $31 million or 14% of total revenue; net income was $18 million; our balance sheet was healthy with $123 million in cash and investments; and application services backlog for 2013 increased a remarkable 38% to $186 million at the end of 2012.

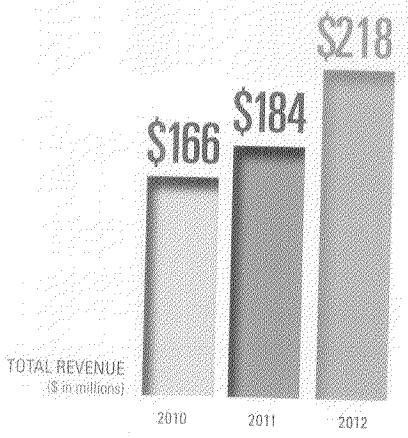
The strength of our performance clearly demonstrates that we are successfully making the transition from being a provider of Medidata Rave® to a platform company with greatly expanded capabilities and opportunities. It is evidence that we remain true to our mission of bringing positive technological disruption to life sciences. We are increasing the breadth of problems we solve for our customers, and they are buying more of our solutions at a faster rate than ever before. Industry-leading customer retention rates, market share gains, increasing cross-sell activity, positive life sciences industry dynamics and the improving macroeconomic environment all contributed to our growth in 2012.

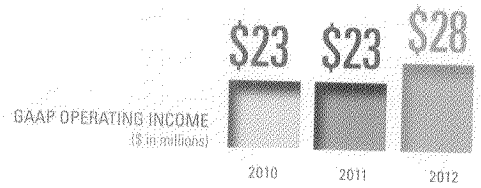
Our Performance in 2012

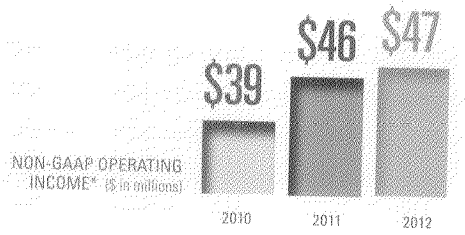
Medidata is transforming rapidly and successfully. Our successes in 2012 highlight our ability to create competitive advantage for our customers while remaining consistent with our unique and disruptive business model.

The Medidata Clinical Cloud, enabled by our proprietary data and analytics model, is a unique offering, which is cementing our position as the industry leader.

The strength and breadth of our business in the past year clearly demonstrates our ability to penetrate the full range of life sciences companies with our platform solution. We set aggressive goals for our organization in 2012 and we consistently outperformed them.







* Non-GAAP operating income excludes the impact of depreciation, amortization of intangible assets associated with acquisitions, stock based compensation expense, adjustment to the fair value of contingent consideration, and a charge associated with a legal settlement. See investor instructions for reconciliations to generally accepted accounting principles (GAAP) for the non-GAAP financial measures included in this annual report. A copy of this information can also be obtained free of charge by contacting the company's investor relations department.

Our customer base grew 27%. As our market evolves from single to multi-product and platform solution sales, we are seeing strength across our entire product line across all geographies and segments of our customer base. Our market share gains throughout the year were broad, encompassing the largest global pharma companies, CROs, mid-sized biotechs and academic research organizations. The Medidata Clinical Cloud, enabled by our proprietary data and analytics model, is a unique offering, which is cementing our position as the industry leader.

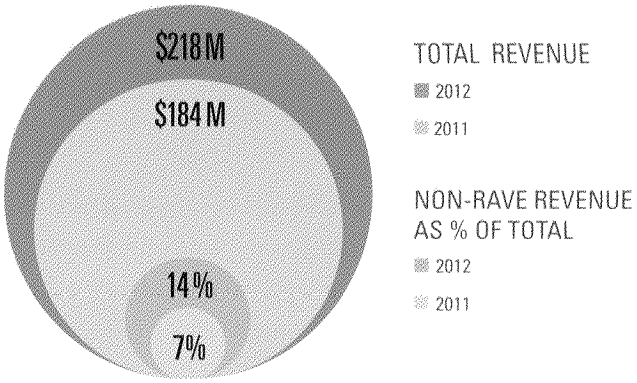
We experienced roughly 50% growth in customers committing to multiple products. By the end of the year, 38% of Medidata's customers were multi-product customers. 25% of our new customers bought more than one product, double the number in 2011. In addition to continued strong sales of Rave, non-Rave products, including Medidata CTMS™, Medidata Designer® and Medidata Coder®, saw rapid adoption throughout the year. One of our most disruptive products, Medidata Balance®, used for patient randomization and drug logistics, had a 300% year-over-year increase in customers—demonstrating that this established market is clearly ready for innovation from a technology and business model perspective.

We signed the largest transaction in our company's history, a five-year, $100+ million contract with a top five global life sciences company for the entire Medidata Clinical Cloud. This was not only a milestone for Medidata, but a seminal moment for cloud adoption in life sciences.

Our Customers

Over the past decade, the life sciences landscape has been changed by expiring patents, generic competition, pricing pressure, heightened regulatory scrutiny and the increased importance of emerging markets. More recently, the global macroeconomic environment has been challenging. Throughout all of this disruption, and in many cases as a result of it, Medidata has thrived. We have witnessed firsthand the pressure on our customers to adopt new business models to counter slowing sales growth and declining profitability while more efficiently delivering improved patient outcomes. We are seeing evidence of the positive impact of changes that are happening across the industry, indicating that the more successful companies are beginning to thrive in this environment.

Today, we are seeing the early signs of life sciences companies emerging from their prolonged period of retrenchment, once again focusing on innovation and experiencing success in drug development. Last year, 39 new drugs and biologic products were approved by the FDA, a 15-year record and an increase of 40% over the average of the past decade. The financial health of our customers is improving as they evolve their business models and balance their portfolios to deal with these challenges. The future market leaders in big pharma are likely to be global companies that invest heavily in growth and innovation. Leading biotech companies will also take a similar approach with more of a focus on particular therapeutic areas and metabolic pathways. The common thread is that the market leaders are just beginning to leverage technology solutions to make their development processes more efficient and reallocate associated savings back into drug discovery to ensure a steady stream of innovative therapies that will fuel their future growth.



Our Opportunity

We expect to be a primary beneficiary of this renewed industry focus on growth and the application of technology solutions to drive competitive advantage. As the market leader in life sciences cloud technology, we are working closely with our customers to identify opportunities to leverage the Medidata Clinical Cloud to dramatically improve operating efficiencies, with the ultimate shared goal of improving patient outcomes. We are committed

We expect to be a primary beneficiary of this renewed industry focus on growth and the application of technology solutions to drive competitive advantage.

to building value for our customers, for Medidata and for our shareholders.

We will continue to invest aggressively in our business in 2013, and we are confident that this is the best way to build value. More specifically, we will continue to add to our sales team and focus on improving its capabilities. We will also increase our investment in marketing, elevate our support and services teams and expand our development organization as we enhance our platform capabilities to meet the needs of our life sciences customers.

In 2013, you will see us increase our focus on data and analytics, inclusive of the industry-wide financial and operational benchmarking that is unique to our offerings, as well as adding new analytics to guide our customers to the best possible productivity and outcomes. Medidata is a big data company. We have more clinical trial data, including transactional, financial and operational information, flowing through our platform every day than any company in the world, and we are going to continue to make all that data actionable for every company that works with us.

The market we operate in is large, with life sciences companies spending in excess of $85 billion on clinical development in 2012. We see significant opportunities to rapidly and sustainably grow our business well into the future. We have the products, the people and the competitive position to capitalize on the large and ever-expanding clinical technology opportunity. Medidata has transformed the clinical development process, and customers all around the world are recognizing the benefits of our solutions to address their pressing development needs. We will continue to be aggressive in maintaining our technology advantage, increasing our market share and ensuring the highest levels of customer satisfaction.

We have the products, the people and the competitive position to capitalize on the large and ever-expanding clinical technology opportunity.

Thank you for your continued support, and thank you to the almost 1,000 people who work for Medidata and our more than 350 customers and 35 partners. It is our shared mission of improving patient outcomes that motivates us to do the extraordinary.

Sincerely,

Tarek Sherif

UNITED STATES
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, 2012

OR

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

For the transition period from to

Commission File Number: 001-34387

Medidata Solutions, Inc.
(Exact name of registrant as specified in its charter)

Delaware	13-4066508
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
79 Fifth Avenue, 8th Floor New York, New York	10003
(Address of principal executive offices)	(Zip Code)

(212) 918-1800
(Registrant's telephone number, including area code)

Securities registered under Section 12(b) of the Exchange Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value $0.01 per share	The NASDAQ Stock Market LLC

Securities registered under Section 12(g) of the Exchange 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. ☒

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

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 Act). ☐ Yes ☒ No

As of June 29, 2012, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the common stock held by non-affiliates of the registrant was approximately $649,188,053 based on the closing sale price for the registrant's common stock on the NASDAQ Global Market on that date of $32.67 per share. For purposes of determining this number, all executive officers and directors of the registrant are considered to be affiliates of the registrant, as well as individual shareholders holding more than 10% of the registrant's outstanding common stock. This number is provided only for the purpose of this report on Form 10-K and does not represent an admission by either the registrant or any such person as to the status of such person.

As of March 1, 2013, the registrant had 26,543,416 shares of common stock outstanding.

Documents Incorporated by Reference:

Part III of this Annual Report on Form 10-K incorporates by reference certain information that will be set forth in the registrant's Proxy Statement, which is expected to first be mailed to shareholders on or around April 1, 2013, prepared for the Annual Meeting of Stockholders scheduled for April 30, 2013. Except with respect to information specifically incorporated by reference in this Form 10-K, the Proxy Statement is not deemed to be filed as part of this Form 10-K.

MEDIDATA SOLUTIONS, INC.
ANNUAL REPORT ON FORM 10-K
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2012
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PART I

For purposes of this Annual Report, the terms "Medidata," "Company," "we," "us" and "our" refer to Medidata Solutions, Inc. and its consolidated subsidiaries. This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or Exchange Act, and is subject to the "safe harbor" created by those sections. Forward-looking statements reflect our current estimates, expectations and projections about our future results, performance, prospects and opportunities. Forward-looking statements include, among other things, the information concerning our possible future results of operations, business and growth strategies, financing plans, expectations that regulatory developments or other matters will not have a material adverse effect on our business or financial condition, our competitive position and the effects of competition, the projected growth of the industry in which we operate, the benefits and synergies to be obtained from our completed and any future acquisitions, and statements of management's goals and objectives, and other similar expressions concerning matters that are not historical facts. Words such as "may," "should," "could," "would," "predicts," "potential," "continue," "expects," "anticipates," "future," "intends," "plans," "believes," "estimates," "appears," "projects" and similar expressions, as well as statements in the future tense, identify forward-looking statements. Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by which, such performance or results will be achieved. Forward-looking information is based on information available as of the date of this Annual Report on Form 10-K and/or management's good faith belief with respect to future events, and is subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the statements. We caution readers not to place undue reliance upon any such forward-looking statements. We urge you to consider the risks and uncertainties discussed in "Risk Factors" under Item 1A in this Annual Report on Form 10-K in evaluating our forward-looking statements.

Item 1. Business

Company Overview

We are a leading global provider of cloud-based solutions for life sciences that enhance the efficiency of our customers' clinical development processes from concept to conclusion, optimizing their research and development investments. Our customers are pharmaceutical, biotechnology, and medical device companies, academic institutions, contract research organizations, or CROs, and other organizations engaged in clinical trials to bring medical products and treatments to market and explore new indications for existing medical products. Our solutions allow our customers to increase the value of their development programs by more efficiently and effectively designing, planning, and managing key aspects of the clinical trial process, including study and protocol design, trial planning and budgeting, site negotiation, clinical portal, trial management, randomization and trial supply management, clinical data capture and management, safety events capture, medical coding, clinical business analytics, and data flow and interoperability among multiple trial applications. Our customers rely on our solutions to safely accelerate the clinical development process, enhancing decision-making and saving resources in the development life cycle.

Medidata Rave® is a comprehensive solution that integrates electronic data capture, or EDC, with a clinical data management system, or CDMS, in a single solution that replaces traditional paper-based methods of capturing and managing clinical data. Medidata Rave offers a robust, flexible platform enabling sponsors to manage increasingly complex trials. Medidata Rave's intuitive, user-friendly Internet-based technology facilitates rapid adoption by investigators, sponsors and CROs. Rave is built on industry standards, enabling interoperability with legacy and third-party applications throughout the development process. In addition, our on-demand, hosted technology facilitates rapid and cost-effective deployment of our solutions on a global basis. We have designed our Medidata Rave software to scale reliably and cost-effectively for clinical trials of all sizes and phases, including those involving substantial numbers of clinical sites and patients worldwide. It can be deployed with language localization, enabling trial entry and collaboration across national and linguistic boundaries. Additional Rave solutions provide efficiencies in other areas of clinical data management, replacing separate activities with integrated, risk-minimizing, resource-saving solutions.

Other Medidata applications improve efficiencies throughout the trial process, from concept to conclusion. Medidata CTMS™ is a clinical trial management system that offers robust, easy-to-use trial monitoring, administration, and tracking tools. Medidata Insights™ provides clinical business analytics for more informed development decisions and improved resource allocation, leading to increased operational effectiveness. Medidata Designer®, a clinical study and protocol design tool, enables customers to design trial protocols more effectively and automatically configure Medidata Rave and other downstream systems, shortening the planning and set-up phase of the trial process. Medidata Grants Manager® enables our customers to increase the efficiency of trial budgeting and investigator contracting as well as improve compliance. Medidata CRO Contractor® facilitates CRO outsourcing, budgeting and contract negotiation. Medidata Balance® is a randomization development and execution application used for randomization and trial supply management, or RTSM, addressing not only the management of the randomization and supplies function, but also the design and implementation of the study. Balance shortens set-up time for trials through design portals, simulation capabilities and automatic integration with Rave, and provides investigative sites with a single system for subject enrollment and randomization during the trial.

We derive a majority of our revenues from Medidata Rave application services through multi-study arrangements for a predetermined number of studies. We also offer our application services on a single-study basis that allows customers to use our platform for a limited number of studies or to evaluate it prior to committing to multi-study arrangements. We support our solutions with comprehensive service offerings, which include global consulting, implementation, technical support and training for customers and investigators. We invest heavily in training our customers, their investigators and other third parties to configure clinical trials independently. We believe this knowledge transfer accelerates customer adoption. We also invest in training and enabling a network of implementation partners, primarily CROs, who can provide the implementation support to customers who outsource data management and other activities to third parties.

Our diverse and expanding customer base currently includes over 20 of the top 25 global pharmaceutical companies measured by drug revenue and numerous middle-market life sciences companies, as well as CROs. In 2012, no single customer accounted for 10% or more of our total revenues.

Our deep expertise derived from facilitating over three thousand studies across all development phases and therapeutic areas in more than 120 countries has positioned us as a leader in providing clinical trial solutions. For 2012, we generated $218.3 million in revenues, an 18.4% increase over 2011. Our business model provides us with a recurring revenue stream that we believe delivers greater revenue visibility than perpetual software licensing models.

The Medidata Solution

Medidata offers a broad set of advanced technology solutions aimed at achieving efficiencies across the clinical research process in order to lower the total cost of clinical development to our customers. Our approach is to offer technology that not only brings efficiencies to existing processes, but also enables new efficiencies by simplifying work flows, reducing redundancies, and creating interoperability across our customers' clinical trial environments.

Our software solutions and services allow users to accurately and efficiently design clinical trials; manage and monitor ongoing trial activities; develop and administer trial budgets; capture, manage and report clinical trial data; plan and execute randomized subject allocation methodologies; manage clinical trial supplies; and view, track, and evaluate trial progress through easy-to-use, Internet-enabled platforms. We believe our solutions provide our customers with the following benefits:

- *Faster trial results.* Our workflow-focused products, on-demand platform and delivery models streamline the clinical development process, enabling users to compress the time associated with planning, designing and conducting clinical trial programs and maximize returns on development. Our products singly and together minimize redundant data entries and reconciliations, apply automation to data cleansing and integration, and provide actionable reporting and analytics into trial progress. Our data-enriched products provide customers with benchmarking tools that can be used to improve speed, quality and efficiency of clinical trials.

- *Improved quality and visibility of results.* Medidata solutions are designed to drive maximum value from development pipelines through risk minimization, actionable analytics and web-based collaboration. Medidata Rave allows users engaged in clinical trials to enhance the quality and completeness of their data earlier in the process by providing real-time data cleansing and eliminating duplicative manual entry of data. Operational and programmatic decision-making is enhanced through consistent access to reliable data, allowing for adaptive and other innovative trial designs, early identification and termination of unsuccessful trials, and timely visibility to information that may identify safety concerns.

- *Comprehensive clinical development solutions.* We have designed our comprehensive solutions to provide support throughout the clinical development process, from protocol authoring to preparing data for regulatory analysis and submission to clinical and operational decision-making. We offer solutions for clinical data as well as trial management activities, and utilize cross-study and cross-company analytics to provide deep insights. We provide third party technology providers with access to our application programming interface, or API, and developer tools, which facilitates integration with complementary business systems. Medidata Rave can be integrated easily with auxiliary clinical and operational data systems, making it the backbone for a complete end-to-end solution. Our solutions' comprehensive security model provides a rigorous foundation for trial implementation.

- *Enhanced investigator acceptance.* We have designed the user interface of our applications to meet the needs of clinicians, with intuitive, consistent point-and-click navigation and a familiar clinical data entry approach. We incorporate user input into the design of our interface and provide embedded training tools to accelerate end-user adoption, which offers benefits to our life sciences customers through increased site satisfaction and smoother administration.

- *Seamless execution of global trials.* Medidata Rave provides a single data repository that can be used in multiple languages simultaneously, avoiding the need for the installation and maintenance of parallel versions of the system. This capability allows investigators around the world to enter data in a variety of languages while enabling monitors and data managers to view the same data in a consistent language.

- *Lower cost of ownership.* Our product architecture scales reliably and cost-effectively across clinical trials of all sizes and phases. Our applications operate on a cloud-based model, further reducing deployment cost per study. We provide multiple capabilities within our products, enhanced by using multiple products, and build our products on industry standards, which allow customers to maintain their embedded legacy systems as well as integrate new applications and data sources without costly retooling or reinstallation.

Our Strategy

Our strategy is to become the global standard for application service solutions for technologies that drive up the value of the clinical development process by increasing efficiencies, reducing redundancies and optimizing workflow. Key elements of our strategy include:

- *Expand our global customer base.* We expect clinical technology adoption to continue to increase, resulting in significant growth in spending on technology solutions. Segments that are currently underpenetrated include non-US geographies; mid-sized companies; the medical device and diagnostic industries; and academic research centers and government entities. Our field sales force is deployed at the regional and industry level and we have marketing, sales, and services resources dedicated to geographic regions, industry sectors and small- and middle-market life sciences companies. We will continue to pursue new relationships with large global pharmaceutical and biotechnology companies by leveraging our support infrastructure, unique language translation capabilities and industry expertise.

- *Increase sales to our existing customers.* Our strategy of developing technology solutions across the clinical trial process provides additional avenues for growing our business. We will continue to demonstrate the significant efficiencies that our existing customer base can achieve by standardizing their end-to-end clinical development processes on our platform or by employing additional products. Within existing customers, we also intend to drive increased usage of our currently-deployed products by facilitating the use of our application services in new trials and converting existing single-study customers into multi-study customers. We expect our knowledge transfer model to accelerate customer adoption, resulting in additional licensing opportunities.

- *Enhance our platform of solutions and services.* We intend to continue to add new functionalities and features to our existing offerings and add new offerings to maximize the efficiency of the clinical development process, covering not just clinical data collection from patients and sites but also operational data collection and reporting to enable a smoother and more resource-efficient development process. We will continue to enhance platform capabilities for enhanced usability, operational efficiencies and development process coverage.

- *Expand indirect sales channel initiatives.* We will continue to pursue strategic partnerships with CROs and healthcare information technology consultants to position our software solutions as the platform of choice for their outsourced clinical trial management services. We have a well-established program of support, training and certification to enable CROs to cost-effectively implement our products and services in sponsor studies and to provide additional services related to clinical trial design and deployment. This channel provides a cost-effective means for smaller companies and study-by-study customers to adopt Medidata technology, broadening our reach.

Our Solutions

We provide clinical development solutions for life sciences organizations around the world. Our solutions include software and services that enable organizations to systematically design protocols; capture, manage and report clinical data; and analyze the results of that data in a cost-effective and efficient manner. We also provide advanced reporting, visualization and benchmarking tools that provide insight into business operations. Additional functionalities allow customers to efficiently develop and execute advanced patient allocation and clinical trial supply plans; aggregate and report patient information in support of other clinical operations functions such as adverse event reporting and investigator monitoring; and access and manage applications through a clinical portal. We have also designed solutions to enable our customers to efficiently plan clinical trials by providing budgeting, pricing, workflow and relationship management capabilities. Our cloud-based business model eliminates the costs associated with installing and maintaining applications within the customer's information technology infrastructure.

Products and Services

Application Services

Medidata Rave. Medidata Rave combines a scalable EDC solution with a robust and fully integrated CDMS. Medidata Rave's rich functionality allows customers to build clinical trials and capture, manage and report clinical trial data on a global basis and in multiple languages:

- ***Build***. Medidata Rave offers a complete set of capabilities designed to allow clinical trial teams to build and deploy studies without the need for software programming professionals. Study teams can configure and manage ongoing revisions of case report forms, trial workflow, requirements for source document verification, or SDV, and complex data-cleaning algorithms. Integrated tools for the re-use of previously built studies and study components further streamline the deployment process when building multiple trials.

- ***Capture***. Medidata Rave's intuitive user interface facilitates the capture and cleaning of data from global investigator sites, and is designed to provide compliance with regulatory requirements through comprehensive and easy-to-use audit trails and support for electronic signatures. Medidata Rave also allows for the real-time integration of data from other sources, including laboratory information management systems, or LIMS, paper case report forms, ePRO devices, interactive voice response systems, or IVRS, and interactive web response systems, or IWRS. It is optimized for ease of use by clinical investigators, who can access, train and communicate with the life sciences company sponsoring the trial through the Rave software.

- ***Manage***. Medidata Rave's web-based interface provides clinical data management and operations personnel with the ability to monitor, query, code and obtain real-time reports and views of study data. The platform further provides comprehensive tools for automated cleaning, tracking, import and export of all study data, and allows independent transformation of clinical data for use in data analysis and warehousing. Medidata Rave's built-in capabilities allow customers to manage mid-study changes without system downtime. Our strong support for industry standards, such as those provided by the Clinical Data Interchange Standards Consortium, or CDISC, provides a foundation for integration with other systems at sponsors, CROs and technology partners.

- ***Report***. Medidata Rave's platform provides insight into both clinical and metric data in real time with advanced visualization tools. Study teams can extract and analyze both clinical and operational data, which allows customers to view progress on their individual studies and current pipeline status across all of their studies. By reporting data during the course of the study, our platform enables sponsors to analyze interim data utilizing an adaptive trial design to modify the study conduct prior to its completion. Multiple language trials are also supported through the reporting phase. Monitors and sponsors have real-time access to reports in multiple languages, regardless of the data input language.

In addition, extensions to the Medidata Rave platform provide enhanced capabilities for our customers by automating processes to minimize risk and increase efficiencies through eliminating duplicative activities and reducing the amount of resources required for clinical trial set-up and implementation. These include:

- ***Rave Safety Gateway***, which provides a solution for collecting and transmitting serious adverse events and related data from the EDC system at sites to safety reporting systems, reducing potential errors and enhancing reporting speed. Safety Gateway automatically transmits safety case data entered into Medidata Rave at sites to sponsors' safety reporting systems using an industry-standard file format, reducing the burden of collecting and reconciling safety data.

- ***Targeted SDV***, which provides clinical research sponsors and CROs with an auditable and scalable solution to implement partial data verification at sites, supporting current risk-based monitoring strategies that reduce the time and cost that life sciences companies expend to meet regulatory requirements for verifying data collection.

Medidata CTMS. Medidata CTMS, our clinical trial management solution, is a cloud-based approach that streamlines operational workflows, such as site payments and monitor visits, increasing site performance and providing study managers with real time visibility into milestones and metrics. It differs from existing CTMS applications in delivering these robust capabilities with a rapid implementation profile, low service requirements and universal accessibility within a secure technology.

Medidata Designer. Medidata Designer, our study and protocol design tool, enhances the efficiency of clinical trial start-up, assists with optimization of clinical trial design and guides clinical research teams through the study design and set-up processes. It helps sponsors focus resources on study design, improving quality by enabling line of sight between objectives and endpoints with real-time quality check and visibility into industry benchmark metrics. Medidata Designer can automatically configure Medidata Rave studies, ensuring quality, consistency and efficiency, and also streamline trial execution through reuse of design information in a variety of downstream systems.

Medidata Insights. Medidata Insights is an enterprise clinical business analytics platform designed to drive more informed decisions and improve resource allocation in clinical programs. The rapid implementation solution provides cross-study and cross-company trend and benchmark analytics, analyzable at relevant levels with advanced reporting and visualization tools, that provide operational and high-level insights into trial and program progress.

Medidata Balance. Medidata Balance is a randomization and trial supply management solution that enables development and implementation of sophisticated randomization and supply plans by life sciences organizations and a unified subject allocation and data entry experience by clinical sites. Medidata Balance streamlines the process of developing, building and implementing subject allocation plans, with interactive simulations and audit trail, enabling rapid design and set-up, including full integration with Medidata Rave. Medidata Balance also provides sites with a randomization interface with Medidata Rave, eliminating multiple system requirements and reducing administrative risk. Medidata Balance replaces the existing implementation-heavy processes of alternative randomization and supply trial management systems, most often offered through IVRS, with a short time-to-value, on-demand approach.

Medidata Grants Manager. Medidata Grants Manager enables our customers to develop and manage cost-effective trial budgets, with benchmark industry data and analysis of their own grant history to increase the efficiency of site contracting and to ensure fair and consistent site payments. Medidata Grants Manager includes data from over one quarter of a million grants and contracts and approximately 28,000 protocols in over 1,500 treatment indications. Medidata Grants Manager Contracting, an extension of the application, allows sponsors to efficiently create, manage and track budget negotiations with hundreds of investigative sites simultaneously. The contracting extension enables automated interaction between sponsors and sites, allowing budget agreements to be reached more quickly and efficiently than with current manual processes.

Medidata CRO Contractor. Medidata CRO Contractor provides an analytic tool that brings industry benchmarks to CRO outsourcing, budgeting and negotiation, parallel to Medidata Grants Manager. Our database includes reliable cost benchmarks from contracts with more than 550 global CROs.

iMedidata. iMedidata is a hosted portal application designed to give access to and provide a superior user experience for all Medidata offerings. iMedidata allows investigative sites and sponsor study teams to get started on trial activities through self-managed account administration and single sign-on for all accounts it manages, and provides a centralized learning management system, integrated with user management, for training compliance.

Hosting. Medidata hosting provides world-class services to the vast majority of clients utilizing our products with state of the art virtualization technologies to optimize the delivery of our application services, manage storage effectively, and maintain quality of service. These virtualization capabilities provide the ability to quickly scale to increased customer usage.

Advanced monitoring services are provided on a 24 by 7 basis by trained Medidata staff to ensure that usage is delivered in a consistent manner. Advanced backup and storage frameworks are in place, and regionally-diverse data centers and trained engineering teams are utilized to react quickly in the case of a disaster.

Support. We have a dedicated global organization to support our customers and applications worldwide. We offer 24 by 7 support to our customers' investigator sites through multi-lingual help desks located in Edison, New Jersey, Sofia, Bulgaria and Tokyo, Japan.

Our application services represented 78.6%, 78.3% and 82.0% of our total revenues in 2012, 2011 and 2010 respectively.

Professional Services

In order to provide reliable, repeatable and cost-effective implementation and use of our application services, we have developed a standard methodology to deliver professional services to our customers. Our methodology leverages both the industry-specific expertise of our employees and the specific capabilities of our platform to simplify, streamline and expedite the implementation of our software. Our professional services include:

- implementation services to meet customers' data requirements for various indications;
- process analysis and design to meet the needs of different study phases and global regulatory requirements; and
- guidance on best practices for using our application services.

We offer knowledge transfer services to enable our customers and partners to design, configure, implement and manage trials, and self-administered e-learning training courses for end users. We also offer a variety of additional training services through our training group, known as Medidata University, to facilitate the successful adoption of our application services throughout the customer's or partner's organization.

In order to help customers drive additional costs and inefficiencies out of their business, we offer consulting services to advise customers on ways to optimize their clinical development processes from trial concept to conclusion. Our consultants use their extensive clinical expertise to leverage best practices in the use of clinical technologies, streamline and enhance trial processes and increase customers' competitiveness in the market. We also offer Medidata Insights benchmarks and reports to help customers evaluate their clinical trial performance across the organization and against industry benchmarks.

Our professional services represented 21.4%, 21.7% and 18.0% of our total revenues in 2012, 2011 and 2010, respectively.

Technology

We have designed our technology to maximize ease of use, flexibility, data visibility and system scalability to handle high-volume, global trials. We deploy our solutions through the use of industry-standard web browsers and three tiered server architectures: a web server, a proprietary application server and a database server. End users can access our solutions through any web browser from anywhere in the world without downloading or installing any Medidata-specific software. In addition, our software has end-to-end support for Unicode characters, required to deliver multi-lingual studies. Additionally, we utilize technologies such as firewalls, intrusion detection and encryption to ensure the privacy and security of our customers' data.

We developed our solutions on a broad base of technologies, including Java 2 Enterprise Edition, or J2EE, Oracle, Microsoft.NET, Microsoft SQL Server and Business Objects. By creating consistent data models that can accommodate the broad cloud-based requirements from multiple biopharmaceutical, medical device and CRO customers, we have been able to avoid customer-specific builds or other customizations to our core product, thereby streamlining development and maintenance. Furthermore, our interfaces are built on fully documented APIs which allow us to safely update customers' data in new versions of the system, and to develop additional interfaces to address new market opportunities. These APIs also allow us to import and export configurations and auxiliary data in both human-readable and Extensible Markup Language, or XML, formats. By including version control and the ability to dynamically integrate data without system interruption, we are better able to accommodate the industry-specific challenges facing clinical trial teams around protocol amendments and the need for incremental changes to study data collection and cleaning processes during a clinical trial.

Research and Development

We believe that our future success depends on our ability to continue to enhance and broaden our application services to meet the evolving needs of clinical trial sponsors and other entities engaged in clinical trials. As of December 31, 2012, we had 234 employees in research and development. Our research and development efforts are focused on developing new, complementary software solutions, as well as enhancing our existing software solutions.

When developing our technical solutions to manage clinical data, industry regulatory requirements also dictate that substantial documentation be created to demonstrate data integrity in the solution, known in the industry as a validation package. Our software development life cycle practices include streamlined methodologies for generating and maintaining validation packages during the software release process. These methodologies include a validated path for upgrading existing installations and data. For Medidata Rave, with a major update occurring approximately once per year, the concurrency and robustness of validation packages provide our customers with an ability to stay on current technology, allowing us to minimize the number of legacy releases that require maintenance and support.

Our research and development department includes a product management team that works with both internal and customer experts to create new features and functionality, a technical documentation team, as well as product engineering and software quality assurance functions. We also have a dedicated research and development team building integration software and APIs on top of our platform. We incurred $42.3 million, $29.6 million and $25.8 million in research and development expenses for the years ended December 31, 2012, 2011 and 2010, respectively.

Sales and Marketing

We market and sell our application services through a direct sales force and through relationships with CROs and other strategic partners. Our marketing efforts focus on increasing awareness, consideration and preference for our application services and professional services and generating qualified sales leads. As of December 31, 2012, we had 151 employees in sales and marketing.

Our sales force operates globally with a focus on North America, Europe and Asia. The team, which is organized by both region and focus area, also includes pre-sales product consultants and sales operations support. Sales through this direct channel currently represent the largest source of our total revenues.

Sponsors of clinical trials are increasingly outsourcing their clinical research activities in an attempt to control costs and expand capacity. Our CRO relationships help us position our software solutions as the core platform for their outsourced client trial management services. Through our Medidata Partner Program, we partner with CROs to deliver our clinical trial technology along with the CRO's project and data management expertise. We train, certify and support our CRO and other clinical services partners on our solutions, which enable our partners to quickly and cost-effectively implement our technology in sponsors' studies. Our strategic clinical services partners include AC Medical, Inc., ACRONET Corp., ASKLEP, Inc., CAC EXICARE Corporation, Chiltern International Ltd., CMIC Co., Ltd., Cognizant, Covance Inc., eClinical Solutions, EPS International Co., Everest Clinical Research Services, Inc., Ltd., ICON plc, INC Research, K&L Consulting Services Inc., LSK Global Pharma Services, Medpace Inc., Novella Clinical, Novotech, Ozmosis Research, Inc., Paradigm Infotech Inc., PAREXEL International, PharmaNet/i3, PharPoint Research, Inc., PPD, PRA International, PROMETRIKA, LLC, Quanticate, Quintiles Transnational Corp., Rho, Inc., RPS Inc., SCSK Corporation, SNBL, Synteract, Inc., Theorem Clinical Research, Tigermed Consulting Co., Ltd. and United BioSource Corporation.

Our marketing strategy is to generate qualified sales leads, enhance the global recognition of our brand and products and establish Medidata as the premier provider of clinical trial solutions. Our principal marketing initiatives target key executives and decision makers within our existing and prospective customer base and include sponsorship of, and participation in, industry events including user conferences, trade shows and webinars. We also advertise through online and print media, participate in social media, publish Medidata-authored articles in trade magazines and journals, and participate in cooperative marketing efforts with our CRO partners and other providers of complementary services or technology, including joint press announcements, joint trade show activities and joint seminars and webinars.

We have been able to obtain valuable insight into our customers' needs through the following specific customer initiatives:

- *Medidata User Groups*. Our customers sponsor annual meetings in various geographies that give them an opportunity to share best practices relating to Medidata Rave and provide feedback.
- *Medidata webinars*. We host periodic web-based seminars for current and prospective customers, which are typically focused on our solutions or current industry developments.
- *MyMedidata.com*. MyMedidata.com offers a global portal for our customers and partners and provides them with answers to frequently asked questions; on-line forums and polls where they can interact with our representatives and other members; and updates on Medidata-related events.

Customers

We are committed to developing long-term, partnering relationships with our customers on a global basis and working closely with new customers to configure our systems to meet the unique needs of their trials. Our customers include leading pharmaceutical, biotechnology, medical device and diagnostics companies, institutions (which include academic research centers, government and other non-profit organizations), clinical research organizations and other entities engaged in clinical trials. As of December 31, 2012, we had 350 customers, including over 20 of the top 25 global pharmaceutical companies measured by revenue. Our representative customers by industry group include:

Pharmaceutical	Biotechnology	CROs
Abbott Laboratories		CMIC Co., Ltd.
Astellas Pharma Inc.	Amgen Inc.	Covance Inc.
AstraZeneca PLC	Array BioPharma, Inc.	EPS
Baxter International, Inc.	Elan Pharmaceuticals Inc.	ICON Clinical Research, L.P.
Bayer HealthCare AG	Gilead Sciences, Inc.	INC Research, Inc.
Daiichi Sankyo Co., Ltd.	Infinity Pharmaceuticals, Inc.	PPD
F. Hoffmann-La Roche, Ltd.	Seattle Genetics, Inc.	PRA International, Inc.
H. Lundbeck A/S		Quintiles Transnational Corporation
Johnson & Johnson		SCSK Corporation
Novartis		
Orion Corporation	**Medical Devices and Diagnostics**	**Institutions**
Pfizer Inc.		
Sanofi-Aventis	bioMérieux	
Shionogi & Co., Ltd.	Boston Scientific Corporation	Ludwig Institute for Cancer Research
Takeda Pharmaceutical Corporation Ltd.	DePuy International Ltd.	Northwestern University
	Edwards Lifesciences Corporation	

Our five largest customers accounted for 29%, 31% and 43% of our revenues in 2012, 2011 and 2010, respectively. In 2012 and 2011, no single customer accounted for 10% or more of our total revenues. In 2010, Johnson & Johnson, Roche and AstraZeneca accounted for approximately 11%, 11% and 10% of our total revenues, respectively. No other customer accounted for 10% or more of our total revenues in 2010.

We sell our solutions and provide services globally. A summary of our domestic and international revenues and long-term assets is set forth in Note 2, "Summary of Significant Accounting Policies—Segment Information," to our consolidated financial statements, which are included in Item 15 of this Annual Report on Form 10-K.

Competition

The market for electronic data collection, data management and other clinical trial solutions is highly competitive and rapidly evolving. It is subject to changing technology, shifting customer needs, changes in laws and regulations, and frequent introductions of new products and services. We compete with firms such as Oracle, Perceptive Informatics and others offering products that compete with one or more of our solutions.

We compete on the basis of several factors, including the following:

- breadth and depth of solution offerings;
- ease of use of our products and rates of user adoption;
- product functionality and flexibility;
- speed and performance required to enable customers to access clinical trial data in real-time;
- product reliability and scalability;
- hosting security;
- regulatory compliance;
- financial stability;
- commercial and technology partnerships;
- depth of expertise and quality of our professional services and customer support on a global basis; and
- sales and marketing capabilities.

Although some of our competitors and potential competitors have greater name recognition, longer operating histories, more product offerings and greater financial, technological and other resources than we do, we believe that we compete favorably with our competitors on the basis of these factors.

Government Regulation

The use of our software products, services and hosted solutions by customers engaged in clinical trials must be done in a manner that is compliant with a complex array of United States federal and state laws and regulations, including regulation by the Food and Drug Administration, or FDA, as well as regulations and guidance issued by foreign governments and international non-governmental organizations. Our applications have been designed to allow our customers to deploy such clinical trials as part of a validated system, compliant with applicable laws and regulations.

Regulation of Clinical Trials and Electronic Systems Used in Clinical Trials

The conduct of clinical trials is subject to regulation and regulatory guidance associated with the approval of new drugs, biological products and medical devices imposed upon the clinical trial process by the FDA, foreign governmental regulatory agencies and international non-governmental organizations, such as the International Conference on Harmonisation, or ICH, and the World Health Organization, or WHO.

The laws, regulations and guidance from various countries and regions are often, but not always, harmonized. In those areas which are not yet harmonized, conflicting or even contradictory requirements may exist. Further, the regulatory environment and requirements for clinical trials and drug/biologic/device approvals are undergoing rapid change in the United States, the European Union and in other regions. We continue to monitor regulatory developments and industry best practices in these areas and make changes and introduce improvements as necessary to remain in compliance.

The use of our software products, services and hosted solutions by customers engaged in clinical trials must be done in a manner that is compliant with these laws, regulations and guidance. Failure to do so could, for example, have an adverse impact on a clinical trial sponsor's ability to obtain regulatory approval of new drugs, biological products or medical devices or even to continue a clinical trial.

The use of software during the clinical trial process must adhere to the regulations and regulatory guidance known as Good Clinical Practices, or GCPs, other various codified practices such as the Consolidated Guidance for Industry from the International Conference on Harmonisation Regarding Good Clinical Practices for Europe, Japan and the United States and other guidance documents. In addition to these regulations and regulatory guidance, the FDA and other countries have developed regulations and regulatory guidance concerning electronic records and electronic signatures. In the United States, these regulations are interpreted for clinical trials in a guidance document titled FDA Computerized Systems Used in Clinical Investigations—Guidance for Industry. In general, regulatory guidance stipulates that computerized systems used to capture or manage clinical trial data must meet certain standards for attributability, accuracy, retrievability, traceability, inspectability, validity, security and dependability. If we or our customers violate the GCPs or other regulatory requirements, both parties run the risk that the violation will result in a regulatory citation, the suspension of the clinical trial, investigator disqualification, debarment, the rejection or withdrawal of a product marketing application, criminal prosecution or civil penalties. Such risks not only impact our customers, but could also have a material adverse effect on our business, results of operations or financial condition.

Regulation of Health Information

Government regulation of the use and disclosure of patient privacy and data protection imposes a number of requirements. In the United States, regulations issued pursuant to the Health Insurance Portability and Accountability Act of 1996, or HIPAA, require certain "covered entities," including facilities and providers which are involved in clinical trials, to comply with established standards regarding the privacy and security of protected health information and to use standardized code sets when conducting certain electronic transactions. The regulations also require "business associates" that provide services on behalf of the covered entity to follow the same standards. Although we are not a "covered entity" or a "business associate" and therefore technically are not subject to HIPAA regulations, many users of our products and services are directly regulated under HIPAA and our products cannot be utilized in a manner that is inconsistent with the users' HIPAA compliance requirements. In addition, to the extent we perform functions or activities on behalf of customers that are directly regulated by such health-related privacy laws, we may be required to comply with a number of the same HIPAA requirements. The breach of such requirements on our part may result in liability to our customers and us. In addition to HIPAA, most states within the United States have enacted or are considering their own privacy and data protection laws. Such state laws, if more stringent than HIPAA requirements, are not preempted by the federal requirements and we must comply with them as well.

In addition to complying with the privacy laws of the United States, many foreign governments have data privacy protection laws that include additional protections for sensitive patient information, such as confidential medical records. Because we provide services in many of these countries, we must meet these requirements and must provide our services in a manner that supports our customers' compliance obligations.

Intellectual Property

Our success and ability to compete are dependent on our ability to develop and maintain the proprietary aspects of our technology and operate without infringing the proprietary rights of others. We rely upon a combination of trademark, trade secret, copyright, patent and unfair competition laws, as well as license agreements and other contractual provisions, to protect our intellectual property and other proprietary rights. In addition, we attempt to protect our intellectual property and proprietary information by requiring our employees and consultants to enter into confidentiality, non-competition and assignment of inventions agreements. We have registered trademarks and service marks in the United States and abroad, and have filed applications for the registration of additional trademarks and service marks. Our principal trademarks are "Medidata," "Medidata CRO Contractor," "Medidata Designer," "Medidata Grants Manager," "Medidata Rave," "Medidata Balance," "Medidata Coder," and "iMedidata." We also hold several domain names, including the domain names "mdsol.com" and "imedidata.com." Although we do not rely heavily on patent protection, we hold three patents and have nine patent applications outstanding with the U.S. Patent and Trademark Office, or PTO, as well as certain corresponding foreign patent applications.

The legal protections described above afford only limited protection for our technology. Due to rapid technological change, we believe that factors such as the technological and creative skills of our personnel, new product and service developments and enhancements to existing products and services are more important than the various legal protections of our technology to establishing and maintaining a technology leadership position.

In addition, if any of our software solutions is covered by third-party patents or other intellectual property rights, we could be subject to infringement actions. For example, in December 2011 we settled a lawsuit filed against us by Datasci, LLC, or Datasci. In addition, in March 2011, we were named in a separate complaint for patent infringement filed by DataTrak International, Inc., or DataTrak. See Note 14, "Commitments and Contingencies—Legal Matters," to the consolidated financial statements included in Item 15 of this Annual Report on Form 10-K for full descriptions. We cannot assure you that our software solutions and the technologies used in our product offerings do not infringe patents held by others or that they will not in the future. Any future claim of infringement could cause us to incur substantial costs defending against the claim, even if the claim is without merit, and could distract our management from our business. Moreover, any settlement or adverse judgment resulting from the claim could require us to pay substantial amounts or obtain a license to continue to use the technology that is the subject of the claim, or otherwise restrict or prohibit our use of the technology. Any required licenses may not be available to us on acceptable terms, if at all. If we do not obtain any required licensees, we could encounter delays in product introductions if we attempt to design around the technology at issue or attempt to find another provider of suitable alternative technology to permit us to continue offering the applicable software solution. In addition, we generally provide in our customer agreements that we will indemnify our customers against third-party infringement claims relating to our technology provided to the customer, which could obligate us to fund significant amounts. Infringement claims asserted against us or our customers or other third parties that we are required or otherwise agree to indemnify may have a material adverse effect on our business, results of operations or financial condition.

We have licensed in the past, and expect that we may license in the future, certain of our proprietary rights, such as trademarks, technology or copyrighted material, to third parties.

Employees

As of December 31, 2012, we had a total of 796 employees, of which 262 were employed at our headquarters and additional locations in New York, 375 at other locations in the United States, 103 in the United Kingdom and 56 in Japan. As of December 31, 2012, we had 274 employees in customer services and support, 25 employees in data operations, 234 employees in research and development, 151 employees in sales and marketing and 112 employees in administration and executive management. We also retain additional outside contractors from time to time to supplement our services and research and development staff on an as-needed basis. As of December 31, 2012, we had 146 independent contractors, the majority of which have been engaged in connection with help desk and customer service functions. None of our employees are covered by a collective bargaining agreement. We consider our relationships with our employees to be good.

Available Information

We were organized as a New York corporation in June 1999 and reincorporated in the State of Delaware in May 2000. Our principal executive offices are located at 79 Fifth Avenue, 8th Floor, New York, New York 10003, and our telephone number is (212) 918-1800. Our website is located at *www.mdsol.com*. Our 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 Section 13(a) or 15 (d) of the Exchange Act, as well as reports relating to our securities filed by others pursuant to Section 16 of such act, are available through the investor relations page of our internet website free of charge as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission, or SEC. The SEC maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of that site is *www.sec.gov*.

Item 1A. Risk Factors

We operate in a rapidly changing environment that involves a number of risks, some of which are beyond our control. The risks described below are those which we believe are the material risks we face. Any of the risk factors described below or additional risks and uncertainties not presently known to us, or that we currently deem immaterial, could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to Our Business

Our quarterly and annual operating results fluctuate and may continue to fluctuate in the future, and if we fail to meet the expectations of analysts or investors, our stock price and the value of your investment could decline substantially.

Our quarterly and annual revenues and operating results have varied in the past and may vary significantly in the future depending on factors such as:

- budgeting cycles of our customers;
- the length of our sales cycle;
- increased competition;
- our ability to develop innovative products;
- the timing of new product releases by us or our competitors;
- market acceptance of our products;
- changes in our and our competitors' pricing policies;
- the financial condition of our current and potential customers;
- changes in the regulatory environment;
- changes in operating expenses and personnel changes;
- our ability to hire and retain qualified personnel;
- the effect of potential acquisitions and consequent integration;
- changes in our business strategy; and
- general economic factors, including factors relating to disruptions in the world credit and equity markets and the related impact on our customers' access to capital.

Our future growth is dependent on the successful development and introduction of new products and enhancements. There can be no assurance that we will be successful in developing and marketing, on a timely basis, new products or product enhancements, that our new products will adequately address the changing needs of the marketplace or that we will successfully manage the transition from existing technologies. Certain of these products require a higher level of sales and support expertise. The ability of our sales channel to obtain this expertise and to sell the new product offerings effectively could have an adverse impact on our sales and financial results in future periods. Any of these scenarios may result in the loss of or delay in customer acceptance, diversion of development resources, damage to our reputation, or increased service and warranty costs, any of which could have a material, adverse effect on our business, financial position, results of operations and cash flows.

In addition, a significant portion of our operating expense is relatively fixed and planned expenditures are based in part on expectations regarding future revenues. Accordingly, unexpected revenue shortfalls may decrease our gross margins and could cause significant changes in our operating results from quarter to quarter. As a result, in future quarters our operating results could fall below the expectations of securities analysts or investors, in which event our stock price would likely decrease.

We derive a significant percentage of our revenues from a concentrated group of customers and the loss of one or more major customers could materially and adversely affect our business, results of operations or financial condition.

Our top five customers accounted for approximately 29%, 31% and 43% of our revenues in 2012, 2011 and 2010, respectively. In 2012 and 2011, no single customer accounted for 10% or more of our total revenues. In 2010, Johnson & Johnson, Roche and AstraZeneca accounted for approximately 11%, 11% and 10% of our total revenues, respectively. The loss of any of our major customers could have a material adverse effect on our results of operations and financial condition. We may not be able to maintain our customer relationships, and our customers may delay performance under or fail to renew their agreements with us, which could adversely affect our business, results of operations or financial condition. Any reduction in the amount of revenues that we derive from these customers, without an offsetting increase in new sales to other customers, could have a material adverse effect on our operating results. A significant change in the liquidity or financial position of any of these customers could also have a material adverse effect on the collectability of our accounts receivable, our liquidity and our future operating results.

If our customers cancel their contracts or terminate or delay their clinical trials, we may lose or delay revenues and our business may be harmed.

Certain of our customer contracts are subject to cancellation by our customers at any time with limited notice. Customers engaged in clinical trials may terminate or delay a clinical trial for various reasons, including the failure of the tested product to satisfy safety or efficacy requirements, unexpected or undesired clinical results, decisions to deemphasize a particular product or forgo a particular clinical trial, decisions to downsize clinical development programs, insufficient patient enrollment or investigator recruitment and production problems resulting in shortages of required clinical supplies. In the case of our hosted solutions, any termination or delay in the clinical trials would likely result in a consequential delay or termination in those customers' service contracts. We have experienced terminations and delays of our customer service contracts in the past (although no such past terminations have had a significant impact on our results of operations) and we expect to experience additional terminations and delays in the future. The termination of a single-study arrangement could result in decreased revenues and the delay of our customers' clinical trials could result in delayed professional services revenues, which could materially harm our business.

Our sales cycles for multi-study arrangements can take in excess of nine months from initial contact to contract execution, and require significant employee time and financial resources with no assurances that we will realize sales or revenues.

The sales cycle for multi-study arrangements can take in excess of nine months from initial customer contact to contract execution. During this period, we may expend substantial time, effort and financial resources without realizing any revenues with respect to the potential sale.

If our security is breached, our business could be disrupted, our operating results could be harmed, and customers could be deterred from using our products and services.

Our business relies on the secure electronic transmission, storage, and hosting of sensitive information, including clinical data, financial information, and other sensitive information relating to our customers, company and workforce. As a result, we face some risk of a deliberate or unintentional incident involving unauthorized access to our computer systems that could result in misappropriation or loss of assets or sensitive information, data corruption, or other disruption of business operations. In light of this risk, we have devoted significant resources to protecting and maintaining the confidentiality of our information, including implementing security and privacy programs and controls, training our workforce, and implementing new technology. We have no guarantee that these programs and controls will be adequate to prevent all possible security threats. We believe that any compromise of our electronic systems, including the unauthorized access, use, or disclosure of sensitive information or a significant disruption of our computing assets and networks, would adversely affect our reputation and our ability to fulfill contractual obligations, and would require us to devote significant financial and other resources to mitigate such problems, and could increase our future cyber security costs. Moreover, unauthorized access, use, or disclosure of such sensitive information could result in contractual or other liability. In addition, any real or perceived compromise of our security or disclosure of sensitive information may result in lost revenues by deterring customers from using or purchasing our products and services in the future or prompting them to use competing service providers.

We rely upon a single hosting facility and Amazon Web Services to deliver application services to our customers and any disruption of or interference with our hosting systems, operations, or use of the Amazon Web Services would harm our business and results of operations.

Substantially all of the computer hardware necessary to deliver our application services is located at our hosting facility in Houston, Texas. Our systems and operations could suffer damage or interruption from human error, fire, flood, power loss, telecommunications failure, break-ins, terrorist attacks, acts of war and similar events. The occurrence of a natural disaster, an act of terrorism or other unanticipated problems at our hosting facility could result in lengthy interruptions in our service. In addition to our own dedicated hosting facility, we utilize third-party cloud computing services from Amazon Web Services, or AWS, to help us efficiently scale our application services. We have architected some of our software applications so as to utilize data processing, storage capabilities and other services provided by AWS. Although we maintain backup facilities and disaster recovery services in the event of a system failure, these may be insufficient or fail. Any system failure, including network, software or hardware failure, that causes an interruption in our Houston data center or our use of AWS or a decrease in responsiveness of our applications could damage our reputation and cause us to lose customers, which would harm our business and results of operations. Our business may be harmed if our customers and potential customers believe our service is unreliable.

Defects or errors in our software could harm our reputation, result in significant cost to us and impair our ability to market our solutions.

The software applications underlying our hosted products and services, including Medidata Rave, are inherently complex and may contain defects or errors, some of which may be material. Errors may result from our own technology or from the interface of our software with legacy systems and data, which we did not develop. The risk of errors is particularly significant when a new product is first introduced or when new versions or enhancements of existing products are released. The likelihood of errors is increased as a result of our commitment to frequent release of new products and enhancements of existing products.

We have, from time to time, found defects in our software. Although these past defects have not resulted in any litigation against us to date, we have invested significant capital, technical, managerial and other resources to investigate and correct these past defects and we have needed to divert these resources from other development efforts. In addition, material performance problems or defects in our software may arise in the future. Material defects in our software could result in a reduction in sales, delay in market acceptance of our software or credits or refunds to our customers. In addition, such defects may lead to the loss of existing customers and difficulty in attracting new customers, diversion of development resources or harm to our reputation.

Correction of defects or errors could prove to be impossible or impractical. The costs incurred in correcting any defects or errors or in responding to resulting claims or liability may be substantial and could adversely affect our operating results.

If we are not able to reliably meet our data storage and management requirements, or if we experience any failure or interruption in the delivery of our services over the Internet, customer satisfaction and our reputation could be harmed and customer contracts may be terminated.

As part of our current business model, we store and manage hundreds of terabytes of data for our customers, resulting in substantial information technology infrastructure and ongoing technological challenges, which we expect to continue to increase over time. If we do not reliably meet these data storage and management requirements, or if we experience any failure or interruption in the delivery of our services over the Internet, customer satisfaction and our reputation could be harmed and lead to reduced revenues and increased expenses. Our hosting services are subject to service level agreements and, in the event that we fail to meet guaranteed service or performance levels, we could be subject to customer credits or termination of these customer contracts. If the cost of meeting these data storage and management requirements increases, our results of operations could be harmed.

We may expand our business through new acquisitions in the future. Any such acquisitions could disrupt our business, harm our financial condition and dilute current stockholders' ownership interests in our company.

We intend to pursue potential acquisitions of and investments in businesses, technologies, or products complementary to our business and periodically engage in discussions regarding such possible acquisitions. For example, we acquired Fast Track Systems, Inc., or Fast Track, in March 2008 and Clinical Force Limited, or Clinical Force, in July 2011.

Acquisitions involve numerous risks, including some or all of the following:

- difficulties in identifying and acquiring complementary products, technologies or businesses;
- substantial cash expenditures;
- incurrence of debt and contingent liabilities, some of which we may not identify at the time of acquisition;

- difficulties in assimilating the operations and personnel of the acquired companies;
- diversion of management's attention away from other business concerns;
- risk associated with entering markets in which we have limited or no direct experience;
- potential loss of key employees, customers and strategic alliances from either our current business or the target company's business; and
- delays in customer purchases due to uncertainty and the inability to maintain relationships with customers of the acquired businesses.

If we fail to properly evaluate acquisitions or investments, we may not achieve the anticipated benefits of such acquisitions, we may incur costs in excess of what we anticipate, and management resources and attention may be diverted from other necessary or valuable activities. An acquisition may not result in short-term or long-term benefits to us. The failure to evaluate and execute acquisitions or investments successfully or otherwise adequately address these risks could materially harm our business and financial results. We may incorrectly judge the value or worth of an acquired company or business. In addition, our future success will depend in part on our ability to manage the growth anticipated with these acquisitions.

Furthermore, the development or expansion of our business or any acquired business or companies may require a substantial capital investment by us. We may not have these necessary funds or they might not be available to us on acceptable terms or at all. We may also seek to raise funds for an acquisition by issuing equity securities or convertible debt, as a result of which our existing stockholders may be diluted or the market price of our stock may be adversely affected.

Our revenues derived from international operations are subject to risk, including risks relating to unfavorable economic, political, legal, regulatory, tax, labor and trade conditions in the foreign countries in which we operate, that could have a material adverse effect on our results of operations.

Approximately 33%, 36% and 36% of our revenues in each of the years ended December 31, 2012, 2011 and 2010, respectively, were derived from international operations. We expect that international customers will continue to account for a substantial percentage of our revenues.

International operations are subject to inherent risks. These risks include:

- the economic conditions in these various foreign countries and their trading partners, including conditions resulting from disruptions in the world credit and equity markets;
- political instability;
- longer payment cycles;
- greater difficulty in accounts receivable collection and enforcement of agreements;
- compliance with foreign laws;
- changes in regulatory requirements;
- fewer legal protections for intellectual property and contract rights;
- tariffs or other trade barriers;
- difficulties in obtaining export licenses;
- staffing and managing foreign operations;
- exposure to currency exchange and interest rate fluctuations;
- transportation delays; and
- potentially adverse tax consequences.

Moreover, with regard to our international operations, we frequently enter into transactions in currencies other than the U.S. dollar and we incur operating expenses in currencies other than the U.S. dollar. For the years ended December 31, 2012, 2011 and 2010, approximately 5.1%, 5.9% and 9.8%, respectively, of our revenues were denominated in foreign currencies. This creates a foreign currency exchange risk that could have a material adverse effect on our business, results of operations and financial condition.

We rely on third parties for our help desk support and technology partnerships, and our business may suffer if these relationships do not continue.

We currently outsource our help desk support functions, which involve important direct interactions with users of our products. In the event that our vendor becomes unable or unwilling to provide these services to us, we are not equipped to provide the necessary range of help desk support and service functions to our customers. We also work with companies such as Integrated Clinical Systems, Inc. and Business Objects SA (SAP AG) to allow our EDC platform to interface with their products. If we are unable to develop and maintain effective relationships with appropriate technology partners, if companies adopt more restrictive policies with respect to, or impose unfavorable terms and conditions on, access to their products, we may not be able to continue to provide our customers with certain platform infrastructure, which could reduce our sales and adversely affect our business, operating results and financial condition.

We have been, and may continue to be, subject to claims that we or our technologies infringe upon the intellectual property or other proprietary rights of a third party. Any such claims may require us to incur significant costs, to enter into royalty or licensing agreements or to develop or license substitute technology.

We have been, and may in the future be, subject to claims that our technologies infringe upon the intellectual property or other proprietary rights of a third party. For example, in December 2011 we settled a lawsuit filed against us by Datasci. In addition, in March 2011, we were named in a separate complaint for patent infringement filed by DataTrak. See Note 14, "Commitments and Contingencies—Legal Matters," to the consolidated financial statements included in Item 15 of this Annual Report on Form 10-K for full descriptions.

We cannot assure you that our software solutions and the technologies used in our product offerings do not infringe patents held by others or that they will not in the future. Any future claim of infringement could cause us to incur substantial costs defending against the claim, even if the claim is without merit, and could distract our management from our business. Moreover, any settlement or adverse judgment resulting from the claim could require us to pay substantial amounts or obtain a license to continue to use the technology that is the subject of the claim, or otherwise restrict or prohibit our use of the technology. Any required licenses may not be available to us on acceptable terms, if at all. If we do not obtain any required licenses, we could encounter delays in product introductions if we attempt to design around the technology at issue or attempt to find another provider of suitable alternative technology to permit us to continue offering the applicable software solution. In addition, we generally provide in our customer agreements that we will indemnify our customers against third-party infringement claims relating to our technology provided to the customer, which could obligate us to fund significant amounts. Infringement claims asserted against us or against our customers or other third parties that we are required or otherwise agree to indemnify may have a material adverse effect on our business, results of operations or financial condition.

We may be unable to adequately enforce or defend our ownership and use of our intellectual property and other proprietary rights.

Our success is heavily dependent upon our intellectual property and other proprietary rights. We rely upon a combination of trademark, trade secret, copyright, patent and unfair competition laws, as well as license and access agreements and other contractual provisions, to protect our intellectual property and other proprietary rights. In addition, we attempt to protect our intellectual property and proprietary information by requiring certain of our employees and consultants to enter into confidentiality, non-competition and assignment of inventions agreements. The steps we take to protect these rights may not be adequate to prevent misappropriation of our technology by third parties or may not be adequate under the laws of some foreign countries, which may not protect our intellectual property rights to the same extent as do the laws of the United States.

Our attempts to protect our intellectual property may be challenged by others or invalidated through administrative process or litigation, and agreement terms that address non-competition are difficult to enforce in many jurisdictions and may not be enforceable in any particular case. Moreover, the degree of future protection of our intellectual property and proprietary rights is uncertain for products that are currently in the early stages of development because we cannot predict which of these products will ultimately reach the commercial market or whether the commercial versions of these products will incorporate proprietary technologies. In addition, there remains the possibility that others will "reverse engineer" our products in order to determine their method of operation and introduce competing products or that others will develop competing technology independently.

If we resort to legal proceedings to enforce our intellectual property rights or to determine the validity and scope of the intellectual property or other proprietary rights of others, the proceedings could be burdensome and expensive, even if we were to prevail. The failure to adequately protect our intellectual property and other proprietary rights may have a material adverse effect on our business, results of operations or financial condition.

We could incur substantial costs resulting from product liability claims relating to our products or services or our customers' use of our products or services.

Any failure or errors in a customer's clinical trial caused or allegedly caused by our products or services could result in a claim for substantial damages against us by our customers or the clinical trial participants, regardless of our responsibility for the failure. Although we are generally entitled to indemnification under our customer contracts against claims brought against us by third parties arising out of our customers' use of our products, we might find ourselves entangled in lawsuits against us that, even if unsuccessful, may divert our resources and energy and adversely affect our business. Further, in the event we seek indemnification from a customer, a court may not enforce our indemnification right if the customer challenges it or the customer may not be able to fund any amounts for indemnification owed to us. In addition, our existing insurance coverage may not continue to be available on reasonable terms or may not be available in amounts sufficient to cover one or more large claims, or the insurer may disclaim coverage as to any future claim.

Our failure to properly protect any customer data, including personal medical information we possess or are deemed to possess in connection with the conduct of clinical trials, could subject us to significant liability.

Our customers use our software solutions to collect, manage and report information in connection with the conduct of clinical trials. This information may be considered our customers' proprietary information or personal medical information of the clinical trial participants or patients. Regulation related to the use and disclosure of personal medical information continues to expand in scope and complexity. Increased focus on individuals' rights to confidentiality of their personal information, including personal medical information, could lead to an increase of existing and future legislative or regulatory initiatives giving direct legal remedies to individuals, including rights to damages, against entities deemed responsible for not adequately securing such personal information. In addition, courts may look to regulatory standards in identifying or applying a common law theory of liability, whether or not that law affords a private right of action. Since we receive and process our customers' data or personal information of clinical trial participants and patients from customers utilizing our hosted solutions, there is a risk that we could be liable if there were a breach of any obligation to a protected person under contract, standard of practice or regulatory requirement. If we fail to protect our customers' data or personal information that is in our possession or deemed to be in our possession properly, we could be subjected to significant liability and our reputation would be harmed.

Current and future litigation against us, which may arise in the ordinary course of our business, could be costly and time consuming to defend.

We are from time to time subject to legal proceedings and claims that arise in the ordinary course of business, such as claims brought by our customers in connection with commercial disputes and employment claims made by our current or former employees. From time to time, third parties have asserted and may in the future assert intellectual property rights to technologies that are important to our business and have demanded and may in the future demand that we license their technology. For example, in December 2011 we settled a lawsuit filed against us by Datasci. In addition, in March 2011, we were named in a separate complaint for patent infringement filed by DataTrak. See Note 14, "Commitments and Contingencies —Legal Matters," to the consolidated financial statements included in Item 15 of this Annual Report on Form 10-K for full descriptions. Litigation may result in substantial costs and may divert management's attention and resources, which may seriously harm our business, overall financial condition and operating results. Insurance may not cover such claims, may not be sufficient for one or more such claims and may not continue to be available on terms acceptable to us. A claim brought against us that is uninsured or underinsured could result in unanticipated costs, thereby reducing our operating results and leading analysts or potential investors to reduce their expectations of our performance, resulting in a reduction in the trading price of our stock.

Our contracts with the U.S. government are subject to termination rights and other risks that could adversely affect us.

Because our U.S. government contracts and subcontracts are generally subject to procurement laws and regulations, we may not receive all of the future revenues we anticipate receiving under those contracts and subcontracts in the expected periods. Some of our government contracts are governed by the Federal Acquisition Regulation, or FAR, which includes uniform policies and procedures for acquiring goods and services by the U.S. government. The FAR also contains guidelines and regulations for managing a contract after an award, including conditions under which contracts may be terminated, in whole or in part, at the government's convenience. These regulations also subject us to financial audits and other reviews by the government of our costs, performance, accounting and general business practices relating to our government contracts, which may result in adjustment of our contract-related costs and fees. In December 2010, the U.S. government terminated for convenience a contract previously awarded to us on behalf of the U.S. National Institute of Health's National Cancer Institute, or NCI. Any such future procurement actions by other government customers are subject to risks and uncertainties, which could affect the allocation, timing, schedule and scope of our government contracts and subcontracts.

Risks Related to Our Industry

We face significant competition, which could cause us to lose business or achieve lower margins.

The market for our clinical trial solutions is intensely competitive and characterized by rapidly changing technologies, evolving industry standards and frequent new product and service introductions and enhancements that may render existing products and services obsolete. Accordingly, our market share and margins are subject to sudden declines. Some of our competitors have longer operating histories, greater financial, technical, marketing and other resources and greater name recognition than we do. These competitors may respond more quickly than we can to new and emerging technologies and changing customer and regulatory requirements, or devote greater resources to the development, promotion and sale of their solutions. We anticipate that new competitors will enter our market in the future, as barriers to entry are relatively low in our industry. Increased competition is likely to result in pricing pressures, which could negatively impact our sales, gross margins or market share. In addition, current and potential competitors have established, and may in the future establish, relationships with vendors of complementary products, technologies or services to increase the penetration of their products in the marketplace. Even if our products and services are more effective than the products or service offerings of our competitors, current or potential customers might accept competitive products and services in lieu of purchasing our software products, services and hosted solutions. Our failure to compete effectively could materially adversely affect our business, financial condition or results of operations.

We depend entirely on the clinical trial market, and a downturn in this market could cause our revenues to decrease.

Our business depends entirely on the clinical trials conducted or sponsored by pharmaceutical, biotechnology and medical device companies, CROs and other entities. Our revenues may decline as a result of conditions affecting these industries, including general economic downturns, increased consolidation, decreased competition or fewer products under development. Other developments that may affect these industries and harm our operating results include product liability claims, changes in government regulation, changes in governmental price controls or third-party reimbursement practices and changes in medical practices. Disruptions in the world credit and equity markets and the current global recession may also result in a global downturn in spending on research and development and clinical trials and may impact our customers' access to capital and their ability to pay for our solutions. Any decrease in research and development expenditures or in the size, scope or frequency of clinical trials could materially adversely affect our business, results of operations or financial condition.

Extensive governmental regulation of the clinical trial process and our products and services could require significant compliance costs and have a material adverse effect on the demand for our solutions.

The clinical trial process is subject to extensive and strict regulation by the FDA and other regulatory authorities worldwide. Our software products, services and hosted solutions are also subject to state, federal and foreign regulations. Demand for our solutions is largely a function of such government regulation, which is generally increasing at the state and federal levels in the United States and elsewhere, and subject to change at any time. Changes in the level of regulation, including a relaxation in regulatory requirements or the introduction of simplified drug approval procedures, could have a material adverse effect on the demand for our solutions. For example, proposals to place caps on drug prices could limit the profitability of existing or planned drug development programs, making investment in new drugs and therapies less attractive to pharmaceutical companies. Similarly, the requirements in the United States, the European Union and elsewhere to create a detailed registry of all clinical trials could have an impact on customers' willingness to perform certain clinical studies. Likewise, a proposal for government-funded universal health care could subject expenditures for health care to governmental budget constraints and limits on spending. In addition, the uncertainty surrounding the possible adoption and impact on health care of any Good Clinical Practices reforms could cause our customers to delay planned research and development until some of these uncertainties are resolved. Until the new legislative agenda is finalized and enacted, it is not possible to determine the impact of any such changes.

Modifying our software products and services to comply with changes in regulations or regulatory guidance could require us to incur substantial costs. Further, changing regulatory requirements may render our solutions obsolete or make new products or services more costly or time consuming than we currently anticipate. Failure by us, our customers, or our competitors to comply with applicable regulations could result in increased regulatory scrutiny and enforcement. If our solutions fail to comply with government regulations or guidelines, we could incur significant liability or be forced to cease offering our applicable products or services. If our solutions fail to allow our customers to comply with applicable regulations or guidelines, customers may be unwilling to use our solutions and any such non-compliance could result in the termination of or additional costs arising from contracts with our customers.

Consolidation among our customers could cause us to lose customers, decrease the market for our products and result in a reduction of our revenues.

Our customer base could decline because of industry consolidation, and we may not be able to expand sales of our products and services to new customers. Consolidation in the pharmaceutical, biotechnology and medical device industries and among CROs has accelerated in recent years, and we expect this trend to continue. In addition, new companies or organizations that result from such consolidation may decide that our products and services are no longer needed because of their own internal processes or the use of alternative systems. As these entities consolidate, competition to provide products and services to industry participants will become more intense and the importance of establishing relationships with large industry participants will become greater. These industry participants may try to use their market power to negotiate price reductions for our products and services. Also, if consolidation of larger current customers occurs, the combined organization may represent a larger percentage of business for us and, as a result, we are likely to rely more significantly on the combined organization's revenues to continue to achieve growth.

Risks Related to Our Common Stock

The price of our common stock may fluctuate significantly, and you could lose all or part of your investment.

Shares of our common stock were sold in our IPO in June 2009 at a price of $14.00 per share, and our common stock has subsequently traded as high as $43.79 and as low as $13.36 through December 31, 2012. However, an active, liquid and orderly market for our common stock on The NASDAQ Global Market or otherwise may not be sustained, which could depress the trading price of our common stock. The trading price of our common stock may be subject to wide fluctuations in response to various factors, some of which are beyond our control, including

- our quarterly or annual earnings or those of other companies in our industry;
- announcements by us or our competitors of significant contracts or acquisitions;
- changes in accounting standards, policies, guidance, interpretations or principles;
- general economic and stock market conditions, including disruptions in the world credit and equity markets;
- the failure of securities analysts to cover our common stock or changes in financial estimates by analysts;
- future sales of our common stock; and
- the other factors described in these "Risk Factors."

In recent years, the stock market in general, and the market for Internet-related companies in particular, has experienced extreme price and volume fluctuations. This volatility has had a significant impact on the market price of securities issued by many companies, including companies in our industry. The price of our common stock could fluctuate based upon factors that have little to do with our performance, and these fluctuations could materially reduce our stock price.

In the past, some companies, including companies in our industry, have had volatile market prices for their securities and have had securities class action suits filed against them. The filing of a lawsuit against us, regardless of the outcome, could have a material adverse effect on our business, financial condition and results of operations, as it could result in substantial legal costs and a diversion of our management's attention and resources.

Our actual operating results may differ significantly from guidance provided by our management.

From time to time, we may release guidance in our quarterly earnings releases, quarterly earnings conference call, or otherwise, regarding our future performance that represent our management's estimates as of the date of release. This guidance, which includes forward-looking statements, is based on projections prepared by our management. These projections are not prepared with a view toward compliance with published guidelines of the American Institute of Certified Public Accountants, and neither our registered public accountants nor any other independent expert or outside party compiles or examines the projections and, accordingly, no such person expresses any opinion or any other form of assurance with respect thereto.

Projections are based upon a number of assumptions and estimates that, while presented with numerical specificity, are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which are beyond our control and are based upon specific assumptions with respect to future business decisions, some of which will change. We generally state possible outcomes as high and low ranges which are intended to provide a sensitivity analysis as variables are changed but are not intended to represent that actual results could not fall outside of the suggested ranges. The principal reason that we release guidance is to provide a basis for our management to discuss our business outlook with analysts and investors. We do not accept any responsibility for any projections or reports published by analysts.

Guidance is necessarily speculative in nature, and it can be expected that some or all of the assumptions of the guidance furnished by us will not materialize or will vary significantly from actual results. Accordingly, our guidance is only an estimate of what management believes is realizable as of the date of release. Actual results will vary from our guidance and the variations may be material. In light of the foregoing, investors are urged not to rely upon, or otherwise consider, our guidance in making an investment decision in respect of our common stock. Any failure to successfully implement our operating strategy could result in the actual operating results being different from our guidance, and such differences may be adverse and material.

Provisions of Delaware law and our organizational documents may discourage takeovers and business combinations that our stockholders may consider in their best interests, which could negatively affect our stock price.

Provisions of Delaware law and our fourth amended and restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a change in control of our company or deterring tender offers for our common stock that other stockholders may consider in their best interests.

Our fourth amended and restated certificate of incorporation authorizes us to issue up to 5,000,000 shares of preferred stock in one or more different series with terms to be fixed by our board of directors. Stockholder approval is not necessary to issue preferred stock in this manner. Issuance of these shares of preferred stock could have the effect of making it more difficult and more expensive for a person or group to acquire control of us, and could effectively be used as an anti-takeover device. Currently there are no shares of our preferred stock issued or outstanding.

Our bylaws provide for an advance notice procedure for stockholders to nominate director candidates for election or to bring business before an annual meeting of stockholders, including proposed nominations of persons for election to our board of directors, and require that special meetings of stockholders be called only by our chairman of the board, chief executive officer, president or the board pursuant to a resolution adopted by a majority of the board.

The anti-takeover provisions of Delaware law and provisions in our organizational documents may prevent our stockholders from receiving the benefit from any premium to the market price of our common stock offered by a bidder in a takeover context. Even in the absence of a takeover attempt, the existence of these provisions may adversely affect the prevailing market price of our common stock if they are viewed as discouraging takeover attempts in the future.

As a public company, we incur significant administrative workload and expenses.

As a public company with common stock listed on The NASDAQ Global Market, we must comply with various laws, regulations and requirements, including certain provisions of the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, as well as rules implemented by the SEC and The NASDAQ Stock Market. Complying with these statutes, regulations and requirements, including our public company reporting requirements, continues to occupy a significant amount of the time of our board of directors and management and involves significant accounting, legal and other expenses. We have hired, and anticipate that we will continue to hire, additional accounting personnel to handle these responsibilities, which will increase our operating costs. Furthermore, these laws, regulations and requirements could make it more difficult or more costly for us to obtain certain types of insurance, including director and officer liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

New laws and regulations as well as changes to existing laws and regulations affecting public companies, including the provisions of the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and rules adopted by the SEC and by The NASDAQ Stock Market, would likely result in increased costs to us as we respond to their requirements. We are investing resources to comply with evolving laws and regulations, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities.

We do not currently intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.

We have never declared or paid any cash dividends on our common stock and do not currently intend to do so for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. In addition, covenants in our outstanding senior secured credit facility restrict our ability to pay dividends. Therefore, you are not likely to receive any dividends on your investment in our common stock for the foreseeable future and the success of an investment in shares of our common stock will depend upon any future appreciation in its value. Shares of our common stock may depreciate in value or may not appreciate in value.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

Our corporate headquarters and other material leased real property as of December 31, 2012 are shown in the following table. We do not own any real property.

Location	Use	Size	Expiration of Lease
New York, New York	New corporate headquarters	98,585 square feet	December 2023 (1)
New York, New York	Corporate headquarters	20,000 square feet	September 2013
New York, New York	Office space	19,000 square feet	September 2013
Edison, New Jersey	Office space	24,236 square feet	February 2016
Conshohocken, Pennsylvania	Office space	10,297 square feet	June 2016
Ross, California	Office space	3,138 square feet	December 2013
Houston, Texas	Data center	7,778 square feet	July 2013
Uxbridge, United Kingdom	Office space	8,500 square feet	March 2013 (2)
Hammersmith, United Kingdom	Office space	23,066 square feet	November 2022
Tokyo, Japan	Office space	5,336 square feet	April 2015

(1) We had not as of December 31, 2012 and have not as of the date of filing of this report, taken possession of the property; as such we have estimated a date of expiration of the lease for this property. We entered into the lease agreement as of October 19, 2012.

(2) The lease expiration date is estimated to be March 2013 as this is when we expect to move into our new UK office in Hammersmith. We currently lease on a month-to-month basis at our existing office in Uxbridge and will vacate these premises upon moving to the new office in Hammersmith.

We believe these facilities and additional or alternative space available to us will be adequate to meet our needs for the foreseeable future.

Item 3. Legal Proceedings

See Note 14, "Commitments and Contingencies—Legal Matters," to the consolidated financial statements included in Item 15 of this Annual Report on Form 10-K for a description of current legal proceedings.

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

Stock Market Information

Our common stock has been traded on The NASDAQ Global Market under the symbol "MDSO" since the completion of our IPO in June 2009. Before then, there was no public market for our common stock. The following table sets forth, for the periods indicated, the high and low sales prices of our common stock as reported by The NASDAQ Global Market:

	2012		2011	
	High	Low	High	Low
Fourth Quarter	$ 43.79	$ 31.30	$ 22.29	$ 14.83
Third Quarter	41.67	30.17	24.60	14.07
Second Quarter	32.75	24.46	26.53	21.01
First Quarter	27.96	18.14	27.39	19.77

Holders

On March 1, 2013, we had approximately 117 holders of record of our common stock. The number of record holders was determined from the records of our transfer agent and does not include beneficial owners of common stock whose shares are held in the names of various security brokers, dealers, and registered clearing agencies. The transfer agent of our common stock is American Stock Transfer & Trust Company, 6201 15th Avenue, Brooklyn, New York 11219.

Dividends

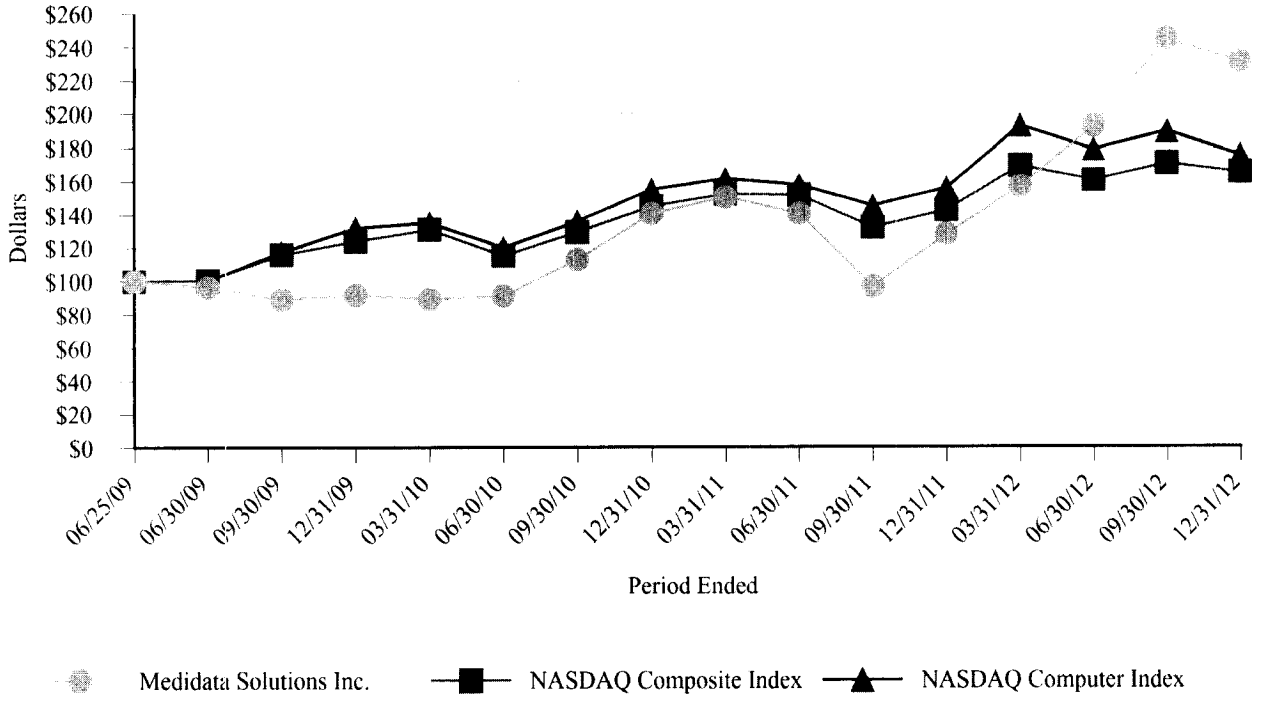
We paid accumulated accrued dividends on our convertible redeemable preferred stock of approximately $2.3 million in cash immediately prior to the conversion of all our redeemable preferred stock into shares of our common stock upon completion of the IPO in June 2009. Except for these dividends, we have never declared or paid any cash dividends on our capital stock. We currently expect to retain any future earnings for use in the operation and expansion of our business and do not anticipate paying any cash dividends on our common stock. Any future determination to pay dividends on our common stock will be at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements and other factors that our board of directors considers relevant.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

From time to time, we grant nonvested restricted stock awards to our employees pursuant to the terms of our 2009 Long-Term Incentive Plan, or 2009 Plan. Under the provisions of our 2009 Plan, the plan participants are allowed to cover their income tax withholding obligation through net shares upon the vesting of their restricted shares. On the date of vesting of restricted shares, we determine the number of vested shares to be withheld, based on their fair value at closing price of our common stock on the vesting date, in order to equal the amount of the plan participant's income tax withholding obligation. During the three months ended December 31, 2012, none of our restricted stock awards vested and therefore we did not repurchase any of our common stock.

Stock Performance Graph

The following graph sets forth the total cumulative stockholder return on our common stock since our common stock began trading on the NASDAQ Global Market on June 25, 2009 as compared to the NASDAQ Composite Index and the NASDAQ Computer Index over the same period. This graph assumes a $100 investment in our common stock at $17.00, which was the closing market price per share on the first day of trading. The comparison in the graphs below are based upon historical stock performance and not indicative of, nor intended to forecast, future performance of our common stock.



	Medidata Solutions Inc.	NASDAQ Composite Index	NASDAQ Computer Index
6/25/2009	$ 100.00	$ 100.00	$ 100.00
6/30/2009	96.35	100.30	100.49
9/30/2009	89.12	116.01	117.42
12/31/2009	91.88	124.03	132.01
3/31/2010	89.41	131.07	135.35
6/30/2010	91.12	115.29	120.20
9/30/2010	112.94	129.47	135.86
12/31/2010	140.47	145.00	155.04
3/31/2011	150.41	152.01	161.35
6/30/2011	140.41	151.60	157.63
9/30/3011	96.71	132.02	145.10
12/31/2011	127.94	142.39	155.79
3/31/2012	156.71	168.98	192.51
6/30/2012	192.18	160.43	178.55
9/30/2012	244.12	170.33	189.31
12/31/2012	230.47	165.04	175.23

Item 6. Selected Financial Data

Our selected consolidated financial information presented for each of the years ended December 31, 2012, 2011 and 2010 and as of December 31, 2012 and 2011 was derived from our audited consolidated financial statements, which are included in Item 15 of this Annual Report on Form 10-K. Our selected financial information presented for each of the years ended December 31, 2009 and 2008 and as of December 31, 2010, 2009 and 2008 was derived from our audited consolidated financial statements, which are not included in this Annual Report on Form 10-K.

The information contained in this table should also be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations," and the consolidated financial statements and accompanying notes thereto included elsewhere in this Annual Report on Form 10-K.

Consolidated Statement of Operations Data

	Year ended December 31,				
	2012	2011(1)	2010	2009	2008(1)
	(in thousands, except per share amounts)				
Revenues:					
Application services (2)	$ 171,647	$ 144,436	$ 136,395	$ 102,541	$ 73,820
Professional services	46,700	40,023	30,031	37,859	31,904
Total revenues (3)	218,347	184,459	166,426	140,400	105,724
Costs of revenues:					
Application services (4)	32,600	28,408	26,400	23,752	19,647
Professional services	30,062	24,423	25,847	26,219	30,801
Total cost of revenues	62,662	52,831	52,247	49,971	50,448
Gross profit	155,685	131,628	114,179	90,429	55,276
Operating costs and expenses:					
Research and development (5)	42,276	29,568	25,772	22,534	19,340
Sales and marketing	47,739	36,147	30,721	27,452	24,190
General and administrative	37,777	37,056	34,379	31,666	27,474
Litigation settlement (4)	—	6,300	—	—	—
Total operating costs and expenses	127,792	109,071	90,872	81,652	71,004
Operating income (loss)	27,893	22,557	23,307	8,777	(15,728)
Interest and other income (expense), net	176	408	415	(1,736)	(1,624)
Income (loss) before provision for income taxes	28,069	22,965	23,722	7,041	(17,352)
Provision for income taxes (6)	10,049	(16,433)	905	1,859	920
Net income (loss)	$ 18,020	$ 39,398	$ 22,817	$ 5,182	$ (18,272)
Earnings (loss) per share:					
Basic	$ 0.73	$ 1.67	$ 0.99	$ 0.33	$ (2.76)
Diluted	$ 0.71	$ 1.60	$ 0.95	$ 0.25	$ (2.76)
Weighted average common shares outstanding (7):					
Basic	24,546	23,646	22,958	14,864	6,794
Diluted	25,469	24,657	24,062	20,736	6,794

Stock-based compensation expense and depreciation and amortization of intangible assets included in cost of revenues and operating costs and expenses are as follows:

	Year Ended December 31,				
	2012	2011(1)	2010	2009	2008(1)
			(in thousands)		
Stock-based compensation expense					
Cost of revenues	$ 1,751	$ 1,263	$ 755	$ 398	$ 291
Research and development	1,049	745	525	522	503
Sales and marketing	2,871	2,014	1,461	1,165	640
General and administrative	5,243	4,798	3,753	2,645	1,763
Total stock-based compensation	$ 10,914	$ 8,820	$ 6,494	$ 4,730	$ 3,197
Depreciation					
Cost of revenues	$ 4,280	$ 4,371	$ 5,296	$ 6,833	$ 5,941
Research and development	944	966	1,227	809	650
Sales and marketing	603	329	443	494	383
General and administrative	315	562	754	618	461
Total depreciation	6,142	6,228	7,720	8,754	7,435
Amortization of intangible assets (5)					
Cost of revenues	1,276	1,088	1,107	1,682	1,191
Sales and marketing	516	501	352	144	79
Total amortization of intangible assets	1,792	1,589	1,459	1,826	1,270
Total depreciation and amortization of intangible assets	$ 7,934	$ 7,817	$ 9,179	$ 10,580	$ 8,705

Consolidated Balance Sheet Data

	As of December 31,				
	2012	2011(1)	2010	2009	2008(1)
			(in thousands)		
Cash and cash equivalents (7)	$ 32,683	$ 45,214	$ 16,025	$ 39,449	$ 9,784
Total marketable securities (7)	89,871	62,463	69,473	49,638	—
Total current assets	182,701	147,666	132,881	101,652	44,565
Restricted cash	388	388	532	532	545
Total assets	224,631	189,835	157,945	143,409	75,190
Total deferred revenue (2)(3)	54,671	63,262	83,768	97,710	101,621
Total capital lease obligations	155	250	780	3,516	7,060
Total long-term debt (8)	—	—	—	—	14,366
Convertible redeemable preferred stock (9)	—	—	—	—	13,245
Convertible preferred stock (9)	—	—	—	—	24
Stockholders' equity (deficit) (7)	142,091	104,117	51,126	20,232	(76,400)

(1) On March 17, 2008, we acquired Fast Track, a provider of clinical trial planning solutions. Our results of operations for 2008 and for subsequent periods include the operations of Fast Track since the date of acquisition. On July 1, 2011, we acquired Clinical Force, a UK-based provider of cloud-based clinical trial management systems, or CTMS. Our results of operations for 2011 and for subsequent periods include the operations of Clinical Force since the date of acquisition.

(2) In December 2010, in connection with a customer contract termination, we recognized an additional $3.2 million in revenues, on an accelerated basis, which represented the remaining balance of deferred revenue on the balance sheet date as of the date of cancellation.

(3) As a result of our adoption of ASU No. 2009-13 on January 1, 2011, professional services revenues in multiple-element arrangements entered into in 2011 or later were recognized as rendered, subject to the proportional performance methodology, as a separate unit of accounting, as compared with the revenues recognized ratably over the term of the arrangements in prior periods. Additionally, such adoption had an impact on our application service revenue recognition in multiple-element arrangements, to the extent that the start of revenue recognition for application services is not dependent upon the delivery of professional services, which was a requirement under our former single unit of accounting revenue recognition policy for multiple-element arrangements. During the year ended December 31, 2011, we accelerated $6.0 million of deferred revenue related to multiple-element arrangements materially modified in 2011, as per the requirements of ASU No. 2009-13.

(4) In 2006, it was claimed that certain applications offered to our customers potentially infringed on intellectual property rights held by Datasci. As a result of negotiations with Datasci, we entered into a license and settlement agreement in June 2007, pursuant to which we licensed the intellectual property held by Datasci for use in our future sales to customers and settled all past infringement claims. We paid a settlement amount of $2.2 million to Datasci in 2007. In June 2009, Datasci initiated a lawsuit against us claiming breach of contract. As a result of further negotiations, we entered into a settlement agreement in December 2011, pursuant to which we settled the ongoing litigation for a one-time lump sum payment of $6.3 million, which was included in our results of operations for the year ended December 31, 2011. See Note 14, "Commitments and Contingencies—Legal Matters," to our consolidated financial statements included in Item 15 of this Annual Report on Form 10-K for more information regarding legal matters.

(5) We determined that technological feasibility had not been established for certain in-process research and development projects acquired from Fast Track. These projects were written off, resulting in $0.7 million of additional research and development expenses included in the consolidated statement of operations data for the year ended December 31, 2008. This write-off is not included in amortization of intangible assets in the consolidated statement of operations.

(6) For the years ended December 31, 2006 through 2010, we did not realize an income tax benefit for the majority of our net operating loss carryforwards and other net deferred tax assets, as we had yet to determine whether it was more likely than not that our future income would be sufficient to utilize these tax benefits. Substantially all of our deferred tax assets were offset with valuation allowances. During the fourth quarter of 2011, we reversed the valuation allowance by approximately $19.0 million as it is more likely than not that our future income will be sufficient to utilize these tax benefits. This reversal of the valuation allowance was recorded as a one-time tax benefit in our provision for income taxes for the year ended December 31, 2011.

(7) In June 2009, we completed an IPO, issuing 6.3 million shares of common stock at a public offering price of $14.00 per share. As a result of the offering, we received net proceeds of $75.2 million, after deducting underwriting discounts and commissions of $6.2 million and offering expenses of $6.8 million. Subsequently, a portion of such proceeds has been invested into high quality marketable securities. In addition, the underwriters exercised in full their over-allotment option to purchase an additional 0.9 million shares of common stock from certain selling stockholders. We did not receive any proceeds from the sale of shares by the selling stockholders.

(8) In July 2009, we used a portion of our net proceeds from the IPO to prepay the entire outstanding indebtedness of the term loan under the senior secured credit facility. The total payoff amount of $14.7 million included the outstanding principal balance of $14.3 million, as well as accrued interest and termination fees of $0.4 million. In June 2010, we entered into the second loan modification agreement with the lender to amend certain terms under the senior secured credit facility. We currently have a $10.0 million revolving line of credit under our senior credit facility, as amended, that matures in September 2013. Except for the $3.6 million reduction of the available amount primarily due to a standby letter of credit issued in connection with the office lease executed under our credit agreement, the revolving line of credit remains undrawn. As of December 31, 2012, approximately $6.4 million of the revolving line of credit was still available for future borrowings. See Note 9, "Debt," to our consolidated financial statements included in Item 15 of this Annual Report on Form 10-K for more information regarding the second loan modification agreement.

(9) As a result of the IPO, all outstanding convertible preferred stock was automatically converted into 9.0 million shares of common stock. In addition, we paid out all accumulated accrued dividends of $2.3 million to preferred stockholders at conversion.

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

The following is a discussion and analysis of our financial condition and results of operations. You should read this discussion and analysis together with our consolidated financial statements and accompanying notes to consolidated financial statements included in Item 15 of this Annual Report on Form 10-K. This discussion contains forward-looking statements that are based on management's current expectations, estimates and projections about our business and operations. Our actual results may differ from those currently anticipated and expressed in such forward-looking statements as a result of a number of factors, including those described in "Risk Factors" under Item 1A and elsewhere in this Annual Report on Form 10-K.

Overview

We are a leading global provider of cloud-based solutions for life sciences that enhance the efficiency of our customers' clinical development processes from concept to conclusion, optimizing their research and development investments. Our customers are pharmaceutical, biotechnology, and medical device companies, academic institutions, CROs, and other organizations engaged in clinical trials to bring medical products and treatments to market and explore new indications for existing medical products. Our solutions allow our customers to increase the value of their development programs by more efficiently and effectively designing, planning, and managing key aspects of the clinical trial process, including study and protocol design, trial planning and budgeting, site negotiation, clinical portal, trial management, randomization and trial supply management, clinical data capture and management, safety events capture, medical coding, clinical business analytics, and data flow and interoperability among multiple trial applications. Our customers rely on our solutions to safely accelerate the clinical development process, enhancing decision-making and saving resources in the development life cycle.

The demand for electronic clinical solutions, such as those provided by us, has been driven by the increasing complexity and cost associated with paper-based trials and inefficiencies with early generation EDC solutions. Paper-based trials may delay the clinical development process, impair data quality and prevent real-time decision making, while traditional EDC solutions have faced challenges with integration, site requirements, customization and scalability.

We have grown our revenues significantly since inception by expanding our customer base, increasing penetration with existing customers, selling multiple products under our clinical cloud-based platform, enhancing our products and services and growing our indirect channel. In order to achieve and sustain our growth objectives, we have invested and will continue to invest in key areas, including: new personnel, particularly in direct domestic and international sales activities; resources to support our product development, including new and expanded product capabilities; marketing programs to build brand awareness; and infrastructure to support growth.

We derive a majority of our application services revenues through multi-study arrangements for a predetermined number of studies. We also offer our application services on a single-study basis that allows customers to use our platform for a limited number of studies or to evaluate it prior to committing to multi-study arrangements. We invest heavily in training our customers, their investigators and other third parties to configure clinical trials independently. We believe this knowledge transfer accelerates customer adoption of our solutions.

We use a number of metrics to evaluate and manage our business. These metrics include revenue growth, customer growth, customer retention rate, revenues from lost customers, geographic contribution, and application services backlog.

Our customer base has grown from 173 at January 1, 2010 to 350 at December 31, 2012. Our relationships with some of these customers include multiple divisions and business units at various domestic and international locations. We generate revenues from sales to new customers as well as sales and renewals from our existing customers. Our global direct sales organization represents our primary source of sales, with an increasing volume of sales generated through our CRO relationships. Our customer retention rate was 90.5%, 89.0% and 91.9% in 2012, 2011 and 2010, respectively. We calculate customer retention based upon the number of customers that existed both at the beginning and end of the relevant period. Revenues from lost customers accounted for 1.6%, 4.7% and 1.2% of total prior year revenues in 2012, 2011 and 2010, respectively. To calculate the impact of customers lost during the period, we consider the revenues recognized from lost customers during the most recent prior fiscal year as a percentage of total company revenues from the same period. Traditionally, we maintain a high percentage of customer retention and hence the revenue impact from lost customers is insignificant to our total revenues. Our revenues from lost customers in 2011 was impacted by a contract termination which resulted in a one-time acceleration of revenue recognition in the fourth quarter of 2010. We believe revenues from lost customers coupled with customer retention rate give the best sense of volume and scale of customer loss and retention. Our presentation of customer retention and revenues from lost customers may differ from other companies in our industry.

We manage our business as one reportable segment. Historically, we have generated most of our revenues from sales to customers located in the United States. However, revenues generated from customers located in Europe and Asia (including Australia) represent a significant portion of overall revenues. Revenues generated from customers located in Europe represented approximately 18%, 20% and 23% of total revenues in 2012, 2011 and 2010, respectively. Revenues generated from customers in Asia represented approximately 14%, 15% and 12% of total revenues in 2012, 2011 and 2010, respectively. We expect sales from customers in Europe and Asia to continue to represent a significant portion of total sales as we continue to serve existing and new customers in these markets.

With our adoption of Accounting Standards Update, or ASU, No. 2009-13, *Multiple Deliverable Revenue Arrangements*, on January 1, 2011, we recognize revenue from professional services as services are delivered for all arrangements entered into or materially modified in 2011 or later, while revenue recognition for the professional services component of our multiple-element arrangements entered into prior to 2011 continues to be ratable over the term of the corresponding application services component until such arrangements expire. Thus, over time we expect professional services to no longer contribute to total backlog or deferred revenue in a significant manner. Consequently, we now monitor application services backlog as an indicator of the underlying health of our business.

Application services backlog solely relates to our cloud-based offerings, representing the total future contract value of outstanding multi-study and single-study arrangements, billed and unbilled, at a point in time. Application services revenue generated in any given period is a function of revenue recognized from the beginning of period application services backlog, contract renewals, and new customer contracts. For this reason, application services backlog at the beginning of any period is not necessarily indicative of long-term future performance. We monitor the amount of revenues expected to be recognized from application services backlog over the current fiscal year while updating application services backlog each quarter to indicate the remaining amount to be recognized within the year. As of January 1, 2013 and 2012, we had full year application services backlog of approximately $186 million and $135 million, respectively. Our presentation of backlog may differ from other companies in our industry.

Given that our professional services will no longer contribute to total backlog or deferred revenue in a significant manner over time as a result of our adoption of ASU No. 2009-13 in 2011 we expect professional services revenues to better reflect professional services billing activity.

We consider the global adoption of clinical development technologies to be essential to our future growth. Our future growth will also depend on our ability to sustain the high levels of customer satisfaction and our ability to increase sales to existing customers. In addition, the market for our products is often characterized by rapid technological change and evolving regulatory standards. Our future growth is dependent on the successful development and introduction of new products and enhancements. To address these challenges, we will continue to expand our direct and indirect sales channels in domestic and international markets, pursue research and development as well as acquisition opportunities to expand and enhance our product offerings, expand our marketing efforts, and drive customer adoption through our knowledge transfer professional services offerings. Our success in these areas will depend upon our abilities to execute on our operational plans, interpret and respond to customer and regulatory requirements, and retain key staff.

Acquisition of Clinical Force

On July 1, 2011, we completed an acquisition of Clinical Force, a provider of cloud-based clinical trial management systems, or CTMS. With this acquisition, we expanded our service offerings to include a clinical trial management solution, which enables our customers to reduce the financial and operational management burden of clinical trials, streamline clinical processes, and increase visibility to timely information that enhances governance and decision making, The total consideration is expected to be $7.0 million, consisting of a cash payment of $5.2 million paid at the closing date, plus additional performance-based earn-out payments of up to $2.6 million which had an estimated fair value of $1.8 million as of the acquisition date. Clinical Force's operations have been included in our consolidated financial statements since the date of acquisition on July 1, 2011. We have combined Clinical Force into our single operating segment.

Litigation Settlement

On December 13, 2011, we entered into a settlement agreement with Datasci. The settlement agreement relates to a lawsuit filed by Datasci in 2009 alleging breach of contract for failing to pay royalties under a prior license and settlement agreement executed between the parties in June 2007. Under the settlement agreement, we agreed to make a one-time, lump-sum payment to Datasci in the amount of $6.3 million to settle the claim and obtain an irrevocable, fully-paid, worldwide, non-exclusive license to the patent that was the subject of the claim by Datasci. The related payment was made on December 16, 2011, and the full amount of the settlement was included in our results of operations for the year ended December 31, 2011.

Sources of Revenues

We derive revenues from application services and professional services. Application services consist of multi-study or single-study arrangements, which give our customers the right to use our software solutions, hosting and site support, as well as clinical trial planning software solutions, which enable our customers to effectively manage their trial planning. Professional services consist of assisting our customers and partners with the design, workflow, implementation and management of their clinical trials.

Our application services are principally provided through multi-study arrangements, which grant customers the right to manage up to a predetermined number of clinical trials for a term generally ranging from one to five years, as well as single-study arrangements that allow customers to use application services for an individual study and/or to evaluate our application services prior to committing to multi-study arrangements. Many of our customers have migrated from single-study arrangements to multi-study arrangements which represent the majority of our application services revenues. We also offer other applications under our cloud-based platform that improve efficiencies for clinical trials from concept to conclusion.

Our professional services provide our customers with reliable, repeatable and cost-effective implementation and training in the use of our application services. We also offer consulting services to advise customers on ways to optimize their clinical development process from trial concept to conclusion. Professional services revenues have represented a smaller portion of overall revenues in recent years. Over the long term, we expect professional services revenues to decline slightly as a percentage of total revenues as our customers and partners become more adept at the management and configuration of our technology for their clinical trials as part of our knowledge transfer efforts.

Cost of Revenues

Cost of revenues consists primarily of costs related to hosting, maintaining and supporting our application suite and delivering our professional services and support. These costs include salaries, benefits, bonuses and stock-based compensation for our data center and professional services staff. Cost of revenues also includes costs associated with our data center, including networking and related depreciation expense; as well as outside service provider costs, amortization expense and general overhead. We allocate general overhead, such as applicable shared rent and utilities, to cost of revenues based on relative headcount. The costs associated with providing professional services are recognized as such costs are incurred. Over the long term, we believe that cost of revenues as a percentage of total revenues will decrease.

Operating Costs and Expenses

Research and Development. Research and development expenses consist primarily of personnel and related expenses for our research and development staff, including salaries, benefits, bonuses and stock-based compensation, the cost of certain third-party service providers and allocated overhead. We have focused our research and development efforts on expanding the functionality and ease of use of our applications. We expect research and development costs to increase in absolute dollars in the future as we intend to release new features and functionality designed to maximize the efficiency and effectiveness of the clinical development process for our customers. Over the long term, we believe that research and development expenses as a percentage of total revenues will decrease.

Sales and Marketing. Sales and marketing expenses consist primarily of personnel and related expenses for our sales and marketing staff, including salaries, benefits, bonuses and stock-based compensation, commissions, travel costs, and marketing and promotional events, corporate communications, advertising, other brand building and product marketing expenses and allocated overhead. Our sales and marketing expenses have increased in absolute dollars primarily due to our ongoing substantial investments in customer acquisition. We expect sales and marketing expenses to continue to increase in absolute dollars. Over the long term, we believe that sales and marketing expenses as a percentage of total revenues will decrease.

General and Administrative. General and administrative expenses consist primarily of personnel and related expenses for executive, legal, quality assurance, finance and human resource departments, including salaries, benefits, bonuses and stock-based compensation, professional fees, insurance premiums, allocated overhead and other corporate expenses. On an ongoing basis, we expect general and administrative expenses to increase modestly in absolute dollars as we continue to add administrative personnel and incur additional professional fees and other expenses resulting from continued growth and the compliance requirements of operating as a public company. Over the long term, we believe that general and administrative expenses as a percentage of total revenues will decrease.

Income Tax Expense

Prior to 2011, we did not realize an income tax benefit for the majority of our net operating loss carryforwards, or NOLs, and other net deferred tax assets as we had yet to determine that it was more likely than not that our future taxable income would be sufficient to utilize these tax benefits. As a result, we had provided a valuation allowance against the majority of our net deferred tax assets as of and prior to December 31, 2010. In the fourth quarter of 2011, we determined that, as a result of our evaluation of deferred tax asset recoverability against our estimated future taxable income, it was more likely than not that we would realize the benefit from the majority of our deferred tax assets. Consequently, we recorded a one-time benefit resulting from the reversal of the valuation allowance on the majority of our net deferred tax assets.

We have U.S. federal and state NOLs available to offset future taxable income which do not fully expire until 2028 and are subject to limitations under Section 382 of the Internal Revenue Code, or Section 382. We are subject to tax in the United States as well as other tax jurisdictions in which we conduct business. See Note 13, "Income Taxes," to our consolidated financial statements included in Item 15 of this Annual Report on Form 10-K for more information regarding our income taxes.

Critical Accounting Policies

Our consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States of America. Our critical accounting policies, including the assumptions and judgments underlying them, require the application of significant judgment in the preparation of our financial statements, and as a result they are subject to a greater degree of uncertainty. In applying these policies, we use our judgment to determine the appropriate assumptions to be used in calculating estimates that affect the reported amounts of assets, liabilities, revenues and expenses. Estimates and assumptions are based on historical experience and on various other factors that are believed to be reasonable under the circumstances. Accordingly, actual results could differ from those estimates. Our critical accounting policies include the following:

Revenue Recognition

We derive our revenues from the sale of our various application services and the rendering of professional services. We recognize revenues when all of the following conditions are satisfied:

- persuasive evidence of an arrangement exists;
- service has been delivered to the customer;
- amount of the fees to be paid by the customer is fixed or determinable; and
- collection of the fees is reasonably assured or probable.

Application Services

We typically enter into multi-study and single-study arrangements that include the sale of software licenses that provide our customers the "right to use" our software, as well as hosting and other support services, to be provided over a specified term. We recognize revenues ratably over the term of the arrangement, beginning with the commencement of the arrangement term, which generally correlates with the activation of the hosting services, assuming all other revenue recognition criteria are met. The term of the arrangement includes optional renewal periods if such renewal periods are likely to be exercised.

Professional Services

We also provide a range of professional services that our customers have the ability to utilize on an as-needed basis. These services generally include training, implementation, interface creation, trial configuration, data testing, reporting, procedure documentation and other customer-specific services. Professional services do not result in significant alterations to our underlying software.

In certain situations, when professional services are sold separate and apart from application services, they are recognized as services are rendered or using a proportional performance method based on services performed for fixed free professional services.

Multiple-Element Arrangements

We may also enter into arrangements to provide a combination of our offerings of application services and professional services. Our professional services are typically sold together with application services as a component of a single-study or multi-study arrangement.

On January 1, 2011, we adopted Accounting Standards Update, or ASU, No. 2009-13, *Multiple Deliverable Revenue Arrangements,* which amended the guidance on arrangements with multiple deliverables under Accounting Standards Codification, or ASC, 605-25, *Revenue Recognition- Multiple-Element Arrangements.* As a result, the revenues for the majority of our multiple-element arrangements entered into or materially modified in 2011 or later are recognized in accordance with the provisions under ASU No 2009-13.

To qualify as a separate unit of accounting under ASC 605-25, the delivered item must have value to the customer on a standalone basis. The significant deliverables under our multiple-element arrangements are application services and professional services.

We determined that our various application services are individually considered separate units of accounting. In determining whether each service has standalone value, we considered factors including the availability of similar services from other vendors, our fee structure based on inclusion and exclusion of the service, and our marketing and delivery of the service. Since we provide cloud-based application services, the service components of the application services provided, including license, hosting, and support, are combined and accounted for as a separate unit of accounting. We use estimated selling price, or ESP, to determine the selling price for our application services when sold in multiple-element arrangements, as we do not have vendor-specific evidence, or VSOE, for these application services and third-party evidence, or TPE, is not a practical alternative due to differences in features and functionality as compared with other companies' offerings.

We also determined that professional services have standalone value because those services are sold separately by other vendors. We use ESP to determine the selling price for professional services when sold in multiple-element arrangements. Due to insufficient reliable pricing data, we are unable to establish VSOE. While other vendors offer similar services, they represent a small component of the vendor's overall offerings. As a result, we are unable to reliably determine TPE on a standalone basis.

We determine our single-point ESP for application services and professional services as follows:

Application Services- We have developed an internal pricing tool that provides price quotes for application services configurations. Any new potential customer application services arrangements must be priced through the utilization of our internal pricing tool. We have established an internal committee to monitor compliance and evaluate pricing data on a periodic basis. This evaluation includes the review of historical pricing data, market conditions consideration and the review of pricing strategies and practices. Any necessary pricing modification made to the internal pricing tool is supported by the result of such evaluation. Accordingly, our ESP for application services is obtained from the internal pricing tool.

Professional Services- We evaluate internal historical professional services pricing data to determine average pricing rates by type of professional services rendered. These averages are utilized to determine ESP for professional services, and are reviewed and updated at least annually.

We believe the effect of changes in either the selling price, or the method, of assumptions used to determine ESP for application services and professional services will not have significant effect on the allocation of the arrangement consideration as the ESP for the above deliverables are based on historical pricing data.

For multiple-element arrangements entered into or materially modified in 2011 or later, we allocate the arrangement consideration based on their relative ESP. Revenues for deliverables under application services are recognized ratably over the term of the arrangement, beginning with the commencement of the arrangement term, which generally correlates with the activation of the hosting services, assuming all other revenue recognition criteria are met. Revenues for deliverables under professional services are recognized using a proportional performance method or as services are rendered.

For multiple-element arrangements entered into prior to 2011, we account for these arrangements as a combined single unit of accounting, which includes application services and professional services, and the related revenues are recognized ratably beginning with the commencement of the arrangement term, assuming all other remaining revenue recognition criteria are met. Revenues for any deliverables included in multiple-element arrangements that are within the scope of ASC 985-605, *Software- Revenue Recognition,* will continue to be recognized under such accounting standards.

In addition, for multiple-element arrangements entered into prior to 2011, management's estimate of fair value for professional services is used to derive a reasonable approximation for presenting application services and professional services separately in our consolidated financial statements.

Deferred Revenue

Deferred revenue consists of billings or payments received in advance of revenue recognition and is recognized as the revenue recognition criteria are met. Amounts that have been invoiced are initially recorded in accounts receivable and deferred revenue. We invoice our customers in accordance with the terms of the underlying contract, usually in installments in advance of the related service period. Accordingly, the deferred revenue balance does not represent the total contract value of outstanding arrangements. Payment terms are typically net 30 to 45 days. Deferred revenue that is expected to be recognized during the subsequent 12-month period is recorded as current deferred revenue and the remaining portion as non-current deferred revenue. Our total deferred revenue has declined over the past few years, while the non-current portion has decreased in a more significant manner. As our cloud-based model continues to evolve, we have fewer large upfront billings related to application services as the majority of our customers now have monthly or quarterly billing terms. In addition, given our adoption of ASU No. 2009-13 on January 1, 2011, the majority of our professional services revenues are no longer deferred, but are now recognized as these services are delivered. Overall, we expect these trends to have less of an impact on deferred revenue as the majority of our older legacy contracts have been renewed.

In some instances, customers elect to renew their application services arrangements prior to the original termination date of the arrangement. The renewed application services agreement provides support for in-process clinical trials, and includes the "right to use" the software for initial clinical studies. As such, the unrecognized portion of the deferred revenue associated with the initial arrangement is aggregated with the consideration received upon renewal and recognized as revenues over the renewed term of the application services arrangement.

In connection with our adoption of ASU No. 2009-13 on January 1, 2011, the recognizable portion of any remaining deferred revenue associated with multiple-element arrangements that are materially modified in 2011 or later is calculated based on an allocation of the total arrangement consideration (which includes the consideration of the modified arrangement plus the remaining balance of the deferred revenue) to the remaining deliverables on the basis of their relative selling price. If the total arrangement consideration exceeds the sum of the total selling prices for the remaining deliverables, the surplus is recognized as revenue in the period of modification. If the total arrangement consideration does not exceed the sum of the total selling prices for the remaining deliverables, the shortfall is considered a discount and allocated to the remaining deliverables utilizing a relative-selling price method.

Stock-Based Compensation

We currently follow ASC 718, *Compensation—Stock Compensation*, to account for all of our stock-based compensation plans. According to ASC 718, all forms of share-based payments to employees, including employee stock options, nonvested restricted stock awards and employee stock purchase plans, are treated the same as any other form of compensation by recognizing the related cost in the statement of operations.

Under ASC 718, stock-based compensation expense is measured at the grant date based on the fair value of the award, and the expense is recognized ratably over the award's vesting period. For all grants, we recognize compensation cost under the straight-line method, net of estimated forfeitures. Forfeiture assumptions used in amortizing stock-based compensation expense are based on an analysis of historical data.

We measure the fair value of stock options on the date of grant using the Black-Scholes pricing model which requires the use of several estimates, including:

- the expected volatility of our stock price;
- the expected life of the option;
- risk free interest rates; and
- expected dividend yield.

The use of different assumptions in the Black-Scholes pricing model would result in different amounts of stock-based compensation expense. Furthermore, if different assumptions are used in future periods, stock-based compensation expense could be materially impacted in the future.

We use stock price volatility of our peer group of companies as a basis for determining the expected volatility together with the closing prices of our publicly-traded stock. We have increased and will continue to increase the weight of our own stock price volatility within the weighted average over time as sufficient trading history of our stock is established, with the intent of relying completely upon our own stock's volatility by 2014. In addition, as we do not have sufficient historical exercise data in the period since our stock began being publicly traded to provide a reasonable basis upon which to estimate the expected life, we use the simplified method as allowed under SEC Staff Accounting Bulletin No. 110 for estimating the expected life of options as all of our options qualify as "plain-vanilla" options.

The risk-free interest rate is based on the United States Treasury yield curve with a maturity tied to the expected life of the option. We have not paid and do not expect to pay dividends on our common stock. Thus, no expected dividend yield is factored into our Black-Scholes pricing model.

The fair value of each nonvested restricted stock award grant is measured as if the nonvested restricted stock was vested and issued on the grant date.

We recorded stock-based compensation of $10.9 million, $8.8 million and $6.5 million during 2012, 2011 and 2010, respectively. In future periods, stock-based compensation expense is expected to increase as a result of our existing unrecognized stock-based compensation and as we issue additional equity-based awards to continue to attract and retain employees and non-employee directors. As of December 31, 2012, we had $27.1 million of unrecognized stock-based compensation costs related to all non-vested equity awards granted under our 2000 Stock Option Plan and 2009 Plan. The unrecognized compensation cost is expected to be recognized over an average period of 2.83 years for stock options and 2.70 years for nonvested restricted stock awards as of December 31, 2012.

Goodwill and Intangibles

Goodwill, which consists of the excess of the purchase price over the fair value of identifiable net assets of businesses acquired, is evaluated for impairment using a two-step process that is performed at least annually on October 1 of each year, or whenever events or circumstances indicate that an impairment may have occurred. The first step is a comparison of the fair value of an internal reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit exceeds its carrying value, goodwill of the reporting unit is not considered impaired and the second step is unnecessary. If the carrying value of the reporting unit exceeds its fair value, a second test is performed to measure the amount of impairment by comparing the carrying amount of the goodwill to a determination of the implied value of the goodwill. If the carrying amount of the goodwill is greater that the implied value, an impairment loss is recognized for the difference.

The implied value of goodwill is determined as of the test date by performing a purchase price allocation, as if the reporting unit had just been acquired, using currently estimated fair values of the individual assets and liabilities of the reporting unit, together with an estimate of the fair value of the reporting unit taken as a whole. The estimate of the fair value of the reporting unit is based upon information available regarding our market capitalization, prices of similar groups of assets, or other valuation techniques including present value techniques based upon estimates of future cash flow.

Intangible assets, including technology, database, customer relationships, and customer contracts arising from our two acquisitions since 2008, are recorded at cost less accumulated amortization and are amortized using a method which reflects the pattern in which the economic benefit of the related intangible asset is utilized. We had intangible assets of $1.7 million and $3.4 million, respectively as of December 31, 2012 and 2011. For intangible assets subject to amortization, impairment is recognized if the carrying amount is not recoverable and the carrying amount exceeds the fair value of the intangible asset.

As of December 31, 2012 and 2011, we had goodwill of $15.4 million and $15.2 million, respectively. In 2012, as part of our annual goodwill impairment test, we reassessed our reporting units. Based on the results of that assessment, in which we concluded that we are a single reporting unit and operating segment, we considered our market capitalization under the market approach in determining the estimate of fair value of our reporting unit, as management believed that our market capitalization based on quoted market prices was the best evidence in determining such estimated fair value. The results of our annual impairment test performed on October 1, 2012 indicated that the fair value of our reporting unit exceeded its carrying amount by over 700% and therefore our goodwill was not impaired. The determination of whether or not goodwill or acquired intangible assets have become impaired involves a significant level of judgment in the assumptions underlying the approach used to determine the value of our reporting unit. We set criteria of assumptions and estimates that were reviewed and approved by various levels of management. Changes in our strategy or market conditions could significantly impact these judgments and require adjustments to recorded amounts of intangible assets.

Income Taxes

We use the asset and liability method of accounting for income taxes, as prescribed by ASC 740, *Income Taxes*, which recognizes deferred tax assets and liabilities for the 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 recovered 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. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized.

All of the taxes on our undistributed earnings from our foreign subsidiaries are included in U.S. current income taxes under Internal Revenue Code Section 956. As a result, no deferred income tax liability associated with our undistributed earnings was recorded.

In addition, we follow ASC 740-10 for the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the consolidated financial statements. Under ASC 740-10, we may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position.

We had approximately $12.0 million and $13.2 million of federal NOLs, as of December 31, 2012 and 2011, respectively, available to offset future taxable income, expiring from 2019 through 2028. We also had NOLs for state and local income tax purposes in aggregate of approximately $12.2 million and $24.0 million as of December 31, 2012 and 2011, respectively, available to offset future state and local taxable income, expiring from 2019 through 2028. Certain NOLs are subject to limitations under Section 382.

Results of Operations

We recognize revenues from applications services arrangements ratably over the terms of these arrangements. As a result, a substantial majority of our application services revenues in each quarter are generated from arrangements entered into during prior periods. Consequently, an increase or a decrease in new application services arrangements in a particular quarter may not significantly affect our results of operations in that quarter.

Our typical practice is to sell application services and professional services in a multiple-element arrangement. In connection with our adoption of ASU No. 2009-13 on January 1, 2011, we began to recognize revenues from professional services as delivered for any multiple-element arrangements entered into or materially modified in 2011 or later. Concurrently, as required by ASU No. 2009-13, we continue to recognize revenues from professional services ratably over the term of the multiple-element arrangements entered into prior to 2011 under the pre-amended ASC 605-25 until such arrangements expire. As a result, professional services in 2012 and 2011 consisted of revenues recognized under different revenue recognition policies as stated. Regardless of revenue recognition, we recognize expenses related to our professional services in the period in which the expenses are incurred.

As of the current year, we now expect professional services and gross margins to be more reflective of the services delivered during each reporting period. The revenue impact of multiple-element arrangements entered into prior to 2011 continues to decline significantly as those arrangements expire and more professional services revenues are recognized on an as delivered basis.

The following table sets forth our consolidated results of operations as a percentage of total revenues for the periods shown.

	Year Ended December 31,		
	2012	2011	2010
Revenues:			
Application services	78.6%	78.3%	82.0%
Professional services	21.4%	21.7%	18.0%
Total revenues	100.0%	100.0%	100.0%
Cost of revenues:			
Application services	14.9%	15.4%	15.9%
Professional services	13.8%	13.2%	15.5%
Total cost of revenues	28.7%	28.6%	31.4%
Gross profit	71.3%	71.4%	68.6%
Operating costs and expenses:			
Research and development	19.4%	16.0%	15.5%
Sales and marketing	21.9%	19.6%	18.5%
General and administrative	17.2%	20.1%	20.7%
Litigation settlement	—	3.4%	—
Total operating costs and expenses	58.5%	59.1%	54.7%
Operating income	12.8%	12.3%	13.9%

Year Ended December 31, 2012 Compared with Year Ended December 31, 2011

Revenues

	Year Ended December 31,					
	2012		2011		Change	
	Amount	% of Revenues	Amount	% of Revenues	Amount	%
	(Amount in thousands)					
Revenues:						
Application services	$ 171,647	78.6%	$ 144,436	78.3%	$ 27,211	18.8%
Professional services	46,700	21.4%	40,023	21.7%	6,677	16.7%
Total revenues	$ 218,347	100.0%	$ 184,459	100.0%	$ 33,888	18.4%

Total revenues. Total revenues increased $33.9 million, or 18.4%, to $218.3 million in 2012 from $184.4 million in 2011. The increase in revenues was primarily due to a $27.2 million increase in revenues from application services and a $6.7 million increase in revenues from professional services.

Application services revenues. Revenues from application services increased $27.2 million, or 18.8%, to $171.6 million in 2012 from $144.4 million in 2011. The majority of the increase in application services revenues was derived from increased activity among our existing large and midmarket customers, primarily resulting from new studies and renewals. We also benefited from strong demand from both new and existing customers for multiple products. The revenues from products other than Medidata Rave, or non-Rave revenues, grew significantly compared with prior period. In 2012, we added 102 new customers to reach a total of 350 customers as of December 31, 2012. Revenues from new customers accounted for 41% of the total increase in application services revenues. Application services revenues also increased significantly from both international and domestic customers compared with the prior period. Revenues from customers based in North America and Asia grew 24% and 14%, respectively, whereas revenues from customers based in Europe grew 7%.

Professional services revenues. Revenues from professional services increased $6.7 million, or 16.7%, to $46.7 million in 2012 from $40.0 million in 2011. The increase in professional services revenues was due to high demand for servicing of new products. The majority of our professional services were recognized as delivered in the current year as compared with prior year, following our adoption of ASU No. 2009-13 on January 1, 2011. Our professional services revenues in 2011 included a $3.5 million one-time revenue acceleration associated with two customer contract renewals as a result of our adoption of ASU No. 2009-13, of which $1.4 million was accelerated from 2012. Excluding this impact, revenues from new customers accounted for 57% of the total increase in professional services revenues.

Cost of Revenues

	Year Ended December 31,					
	2012		2011		Change	
	Amount	% of Revenues	Amount	% of Revenues	Amount	%
	(Amounts in thousands)					
Cost of revenues:						
Application services	$ 32,600	14.9%	$ 28,408	15.4%	$ 4,192	14.8%
Professional services	30,062	13.8%	24,423	13.2%	5,639	23.1%
Total cost of revenues	$ 62,662	28.7%	$ 52,831	28.6%	$ 9,831	18.6%

Total cost of revenues. Total cost of revenues increased $9.9 million, or 18.6%, to $62.7 million in 2012 from $52.8 million in 2011. The increase in total cost of revenues was primarily due to a $4.2 million increase in cost of application services revenues and a $5.7 million increase in cost of professional services revenues.

Cost of application services revenues. Cost of application services revenues increased $4.2 million, or 14.8%, to $32.6 million in 2012 from $28.4 million in 2011. The increase was primarily due to higher technology-related expenses associated with our multi-year software licenses and software-related service contracts entered into during 2012. The increase was also driven by higher hosting costs resulting from increased headcount and outside consultants to support our business growth.

Cost of professional services revenues. Cost of professional services increased $5.7 million, or 23.1%, to $30.1 million in 2012 from $24.4 million in 2011. The increase was primarily driven by higher personnel-related costs resulting from an increase in headcount to support the high demand for servicing of new products. In addition, reimbursable travel and entertainment expenses were also higher due to an overall increase in professional services activities.

Operating Costs and Expenses

	Year Ended December 31,					
	2012		2011		Change	
	Amount	% of Revenues	Amount	% of Revenues	Amount	%
	(Amounts in thousands)					
Operating costs and expenses:						
Research and development	$ 42,276	19.4%	$ 29,568	16.0%	$ 12,708	43.0 %
Sales and marketing	47,739	21.9%	36,147	19.6%	11,592	32.1 %
General and administrative	37,777	17.2%	37,056	20.1%	721	1.9 %
Litigation settlement	—	—%	6,300	3.4%	(6,300)	(100.0)%
Total operating costs and expenses	$ 127,792	58.5%	$ 109,071	59.1%	$ 18,721	17.2 %

Total operating costs and expenses. Total operating costs and expenses increased $18.8 million, or 17.2%, to $127.8 million in 2012 from $109.0 million in 2011. Costs increased in each department with the larger increases in research and development and sales and marketing.

Research and development expenses. Research and development expenses increased $12.8 million, or 43.0%, to $42.3 million in 2012 from $29.5 million in 2011. The increase was primarily due to an increase in personnel-related costs of $10.2 million, which was attributable to significant increases in staffing levels in order to accelerate the enhancement and broadening of our product offerings. The increase was also due to higher recruiting expenses driven by the increase in headcount, as well as higher consulting fees and rent expense. We believe our investments in research and development position us to capitalize on the opportunities we see in our markets.

Sales and marketing expenses. Sales and marketing expenses increased $11.6 million, or 32.1%, to $47.7 million in 2012 from $36.1 million in 2011. The increase was primarily due to higher personnel-related costs of $8.6 million, driven by higher sales incentive compensation costs as a result of higher sales performance versus a year ago. In addition, the increase was also due to higher staffing levels associated with the expansion of the reach and capability of our global sales organization in support of our overall growth initiatives. Higher travel-related costs and professional fees, in support of increased selling and marketing-related activities, and higher stock-based compensation costs, also impacted expenses.

General and administrative expenses. General and administrative expenses increased $0.7 million, or 1.9%, to $37.8 million in 2012 from $37.1 million in 2011, excluding the effect of the 2011 litigation settlement charge. The increase was primarily due to an increase in personnel-related costs, driven by higher incentive compensation costs, including stock-based compensation. The increase was partially offset by lower legal fees resulting from our legal settlement with Datasci in December 2011.

Income Taxes

Income tax expense was $10.0 million in 2012, reflecting an effective tax rate of 36%, and differed from the federal statutory tax rate of 35%. Such difference was primarily due to state and local income taxes and undistributed earnings from foreign subsidiaries, partially offset by foreign tax credit utilization. In 2011, we recorded an income tax benefit of $16.4 million. In the fourth quarter of 2011, we determined that it was more likely than not that the benefit from the majority of our deferred tax assets would be realized against our estimated future taxable income. As a result, we recognized a one-time benefit of approximately $19.0 million from the reversal of the valuation allowance on the majority of our net deferred tax assets.

Year Ended December 31, 2011 Compared with Year Ended December 31, 2010

Revenues

	Year Ended December 31,					
	2011		2010		Change	
	Amount	% of Revenues	Amount	% of Revenues	Amount	%
	(Amount in thousands)					
Revenues:						
Application services	$ 144,436	78.3%	$ 136,395	82.0%	$ 8,041	5.9%
Professional services	40,023	21.7%	30,031	18.0%	9,992	33.3%
Total revenues	$ 184,459	100.0%	$ 166,426	100.0%	$ 18,033	10.8%

Total revenues. Total revenues increased $18.0 million, or 10.8%, to $184.4 million in 2011 from $166.4 million in 2010. The increase in revenues was primarily due to an $8.0 million increase in revenues from application services and a $10.0 million increase in revenues from professional services.

Application services revenues. Revenues from application services increased $8.0 million, or 5.9%, to $144.4 million in 2011 from $136.4 million in 2010. Our application services revenues in 2010 were impacted by a $3.2 million one-time acceleration of revenue recognition resulting from a customer contract termination. The majority of the increase in application services revenues was derived from increased activity in our existing large customers and midmarket customers, primarily resulting from new studies and renewals. We also benefited from increased product uptake and cross-selling to existing customers, as well as new customer additions. In 2011, we added 86 customers, including 18 customers acquired as a result of the acquisition of Clinical Force, to reach a total of 275 customers as of December 31, 2011. Revenues from new customers accounted for 56% of the total increase in application services revenues. Our customers continued to contract for more products in addition to Medidata Rave. Non-Rave revenues grew significantly compared with prior period and accounted for 8% of total application services revenues during 2011. As a result of our adoption of ASU No. 2009-13, our application services revenues also benefited from a $2.5 million one-time revenue acceleration during 2011 primarily associated with two customer contract renewals, of which approximately $0.1 million was accelerated into 2011 from 2012.

Professional services revenues. Revenues from professional services increased $10.0 million, or 33.3%, to $40.0 million in 2011 from $30.0 million in 2010. Professional services revenues benefited from a $3.5 million one-time revenue acceleration associated with two customer contract renewals during 2011 as required per the adoption of ASU No. 2009-13, of which approximately $1.4 million was accelerated into 2011 from 2012. Excluding this impact, the increase in professional services revenues was primarily driven by the timing of revenue recognition, as our professional service revenues in multiple-element arrangements entered into in 2011 are recognized on a more accelerated, as delivered basis, following our adoption of ASU No. 2009-13.

Cost of Revenues

	Year Ended December 31,					
	2011		2010		Change	
	Amount	% of Revenues	Amount	% of Revenues	Amount	%
	(Amounts in thousands)					
Cost of revenues:						
Application services	$ 28,408	15.4%	$ 26,400	15.9%	$ 2,008	7.6 %
Professional services	24,423	13.2%	25,847	15.5%	(1,424)	(5.5)%
Total cost of revenues	$ 52,831	28.6%	$ 52,247	31.4%	$ 584	1.1 %

Total cost of revenues. Total cost of revenues increased $0.6 million, or 1.1%, to $52.8 million in 2011 from $52.2 million in 2010. The increase in total cost of revenues was primarily due to an increase in cost of application services revenues.

Cost of application services revenues. Cost of application services revenues increased $2.0 million, or 7.6%, to $28.4 million in 2011 from $26.4 million in 2010. The increase was primarily due to an increase in personnel-related costs. We continued to increase staffing levels to support our growth in business. The increase was partially offset by the decrease in technology-related expenses primarily due to our lower capital expenditure in 2011 as compared with prior period.

Cost of professional services revenues. Cost of professional services decreased $1.4 million, or 5.5%, to $24.4 million in 2011 from $25.8 million in 2010. The decrease was primarily driven by lower personnel-related costs and allocated general overhead costs resulting from a decline in headcount due to our effort to increase the utilization of professional services staff.

Operating Costs and Expenses

	Year Ended December 31,					
	2011		2010		Change	
	Amount	% of Revenues	Amount	% of Revenues	Amount	%
	(Amounts in thousands)					
Operating costs and expenses:						
Research and development	$ 29,568	16.0%	$ 25,772	15.5%	$ 3,796	14.7%
Sales and marketing	36,147	19.6%	30,721	18.5%	5,426	17.7%
General and administrative	37,056	20.1%	34,379	20.7%	2,677	7.8%
Litigation settlement	6,300	3.4%	—	—%	6,300	100.0%
Total operating costs and expenses	$ 109,071	59.1%	$ 90,872	54.7%	$ 18,199	20.0%

Total operating costs and expenses. Total operating costs and expenses increased $18.2 million, or 20.0%, to $109.0 million in 2011 from $90.8 million in 2010. Costs increased in each department with the largest increase in sales and marketing.

Research and development expenses. Research and development expenses increased $3.8 million, or 14.7%, to $29.5 million in 2011 from $25.7 million in 2010. The increase was primarily due to an increase in personnel-related costs of $2.6 million, which was attributable to our increase in staffing levels in order to support our strategy to continue to enhance and broaden our product offerings. The increase was also due to an increase in technology-related expenses of $1.0 million to support our overall growth in research and development.

Sales and marketing expenses. Sales and marketing expenses increased $5.4 million, or 17.7%, to $36.1 million in 2011 from $30.7 million in 2010. The increase was primarily due to higher personnel-related costs of $4.6 million, attributable to our sales team expansion in order to support our increased sales-related activities. The increase in personnel-related costs was also attributable to a higher commission expense driven by our sales growth and a higher stock-based compensation expense. The overall increase was also due to higher conference expenses as a result of increased sales and marketing efforts and higher recruiting costs driven by the headcount growth.

General and administrative expenses. General and administrative expenses increased $2.7 million, or 7.8%, to $37.1 million in 2011 from $34.4 million in 2010. The increase was primarily due to an increase in professional fees of $1.1 million and personnel-related costs of $0.9 million. The increased professional fees were driven by higher accounting fees, and certain legal fees incurred for our acquisition of Clinical Force and associated with our litigation matters. The increase in personnel-related costs primarily resulted from a higher stock-based compensation expense resulting from a full year impact from our equity awards granted in May 2010, as well as additional costs associated with our equity awards granted in May 2011. The increase was also impacted by a $0.2 million charge relating to the fair value adjustment of contingent consideration associated with our acquisition of Clinical Force.

Our total operating costs and expenses in 2011 also included a $6.3 million charge in connection with the litigation settlement with Datasci in December 2011. See Note 14, "Commitments and Contingencies-Legal Matters," to our consolidated financial statements included in Item 15 of this Annual Report on Form 10-K for more information regarding this settlement.

Income Taxes

Income tax in 2011 was a tax benefit of $16.4 million compared to a tax expense of $0.9 million in 2010. In the fourth quarter of 2011, we determined that it was more likely than not that the benefit from the majority of our deferred tax assets would be realized against our estimated future taxable income. As a result, we recorded a one-time benefit of approximately $19.0 million from the reversal of the valuation allowance on the majority of our net deferred tax assets.

Liquidity and Capital Resources

Our principal sources of liquidity were cash, cash equivalents and marketable securities of $122.6 million at December 31, 2012 and $107.7 million at December 31, 2011. Cash and cash equivalents decreased $12.5 million during 2012 primarily due to timing of the collection of our accounts receivable and net purchases of marketable securities. The increase in cash and cash equivalents of $29.2 million in 2011 in comparison with 2010 was primarily due to our strong sales activities and collection of our accounts receivable, partially offset by the litigation settlement payment and cash consideration paid for the acquisition of Clinical Force.

We manage our cash equivalents and marketable securities as a single investment portfolio that is intended to be available to meet our current cash requirements. Cash equivalents substantially consist of investments in money market funds. Marketable securities, which we classify as available-for-sale securities, primarily consist of high quality commercial paper, corporate bonds, U.S. government debt obligations and bank certificates of deposit. Marketable securities with remaining effective maturities of twelve months or less from the balance sheet date are classified as short-term; otherwise, they are classified as long-term on the consolidated balance sheet. We are currently invested entirely in marketable securities with maturities of less than one year for this investment portfolio.

We have a $10.0 million revolving line of credit under our senior secured credit facility, as amended, that matures in September 2013. Except for the $3.6 million reduction of the available amount primarily due to a standby letter of credit issued in connection with the office lease executed under our credit agreement, the revolving line of credit remains undrawn. As of December 31, 2012, approximately $6.4 million of the revolving line of credit was still available for future borrowings. Due to the structure of the credit agreement, any future borrowings under the revolving line of credit will be classified as a current liability. As of December 31, 2012, the effective interest rate for our senior secured credit facility, as amended, was 2.71%, if borrowing under the U.S. London Interbank Offer Rate, or LIBOR, option. We are in compliance with all covenants under our senior secured credit facility, as amended, as of December 31, 2012. See "Revolving Line of Credit" section below for a summary of the second loan modification to our senior secured credit facility.

We believe that our cash flows from operations, cash and cash equivalents, highly liquid marketable securities and our revolving line of credit will be sufficient to satisfy the anticipated cash requirements associated with our existing operations for the foreseeable future. In 2013, we expect to make approximately $31 to $32 million in capital expenditures, primarily related to leasehold improvements to our new corporate headquarters in New York City and new office in Hammersmith, UK. We also plan to enhance our infrastructure and increase the capacity in our Houston data center, as well as to enhance our computer equipment across various corporate functions. We expect to acquire our capital equipment through purchases as opposed to capital lease arrangements. Our future capital expenditures and other cash requirements could be higher than we currently expect as a result of various factors, including any expansion of our business that we may complete. See "Risk Factors" in Item 1A of this Annual Report on Form 10-K.

Revolving Line of Credit

In June 2010, we entered into the second loan modification agreement with the lender to amend our existing senior secured credit facility. Pursuant to the terms of the second loan modification agreement, our senior secured credit facility was amended to:

- reduce fees payable by us on our $10.0 million revolving line of credit under the senior secured credit facility by (a) eliminating the 2.25% margin on prime rate borrowings and (b) decreasing the undrawn revolving credit line fee from 0.500% of the average undrawn balance to an annual rate of 0.375% of the average undrawn balance;
- provide us with an option to borrow under the revolving line of credit at an interest rate based on the LIBOR, plus a margin of 2.5%;
- simplify our financial reporting procedures by eliminating monthly financial reporting obligations and amending certain reporting procedures; and
- replace our prior financial covenants with a simplified adjusted quick ratio covenant of 2.00:1.00 as defined in the second loan modification agreement and provide that in the event that we have less than $10.0 million of cash or cash equivalents in accounts with the lender in excess of our borrowings under the senior secured credit facility, we would also be required to satisfy a minimum trailing-two-quarter cash flow covenant, commencing at $3 million for the period ended June 30, 2010 and increasing each quarter by $1 million up to $6 million for the quarter ended March 31, 2011 and thereafter.

Cash Flows

Cash Flows Provided By Operating Activities

Cash flows provided by operating activities during 2012 were $13.2 million, which consisted primarily of net income of $18.0 million, non-cash adjustments, including stock-based compensation of $10.9 million, depreciation and amortization of $7.9 million, excess tax benefit associated with equity awards of $3.7 million, and deferred income tax adjustment of $3.1 million, as well as changes in working capital. The change in working capital includes an increase in accounts receivable of $15.9 million and decline in deferred revenue of $11.5 million, offset slightly by an increase in accrued payroll and other compensation of $4.3 million. The fluctuation within accounts receivable was primarily due to the impact of higher billing activity, coupled with the timing of cash collections at year-end. The fluctuation in deferred revenue resulted from the continued impact of the timing of professional services revenue and the general decline in large upfront payments from applications services customers, consistent with expectations as our cloud-based business model continues to evolve.

Cash flows provided by operating activities during 2011 were $28.7 million, which consisted primarily of net income of $39.4 million, non-cash adjustments, including deferred income tax adjustment of $21.7 million and excess tax benefit of $3.3 million, depreciation and amortization of $7.8 million and stock-based compensation of $8.8 million, as well as changes in working capital. The change in working capital includes a decline in deferred revenue of $21.9 million, offset somewhat by a decline in accounts receivable of $12.4 million. The fluctuation within accounts receivable and deferred revenue was primarily due to strong customer collections, the timing of revenue recognition associated with professional services and the general decline of large upfront payments from application services customers, which is consistent with our expectation as our cloud-based business model continues to evolve. Our cash flows provided by operating activities were also impacted by the $6.3 million litigation settlement payment to Datasci in December 2011.

Cash flows provided by operating activities during 2010 were $6.2 million, which consisted primarily of net income of $22.8 million, non-cash adjustments of depreciation and amortization of $9.2 million and stock-based compensation of $6.5 million, partially offset by an increase in accounts receivable of $15.4 million, a decrease in deferred revenue of $13.9 million, a decrease in accrued expenses of $3.1 million and an increase in prepaid expenses of $2.7 million. The increase in accounts receivable was due to lower cash collection resulting from our implementation of a new Enterprise Resource Planning, or ERP, system during the fourth quarter of 2010. The decrease in deferred revenue was primarily due to a decline in large upfront payments received from our customers, as some of our larger customers changed to more periodic payment terms upon their contract renewals. This trend has been consistent with our expectation as our cloud-based business model continues to evolve. The decrease in accrued expenses was primarily driven by certain accrued fees associated with our 2009 secondary offering and indemnification settlement paid in 2010. Finally, the increase in prepaid expenses related to the payments of certain multi-year software-related licenses and services expected to be utilized over the following two to three years.

Cash Flows Used In Investing Activities

Cash flows used in investing activities during 2012 were $34.7 million, which was related to $109.3 million in purchases of marketable securities and $5.7 million in purchases of furniture, fixtures and equipment, partially offset by $80.4 million in proceeds from sale and maturity of marketable securities. For the year ended December 31, 2012, we acquired an insignificant amount of equipment through capital lease arrangements.

Cash flows used in investing activities during 2011 were $3.8 million, which was related to $117.1 million in purchases of marketable securities, $5.2 million of cash consideration paid for the acquisition of Clinical Force, and $4.4 million in purchases of furniture, fixtures and equipment, partially offset by $122.8 million in proceeds from sale and maturity of marketable securities. For the year ended December 31, 2011, we acquired $0.2 million of equipment through capital lease arrangements.

Cash flows used in investing activities during 2010 were $28.3 million, which was related to $79.6 million in purchases of marketable securities and $7.4 million in purchases of furniture, fixtures and equipment, partially offset by $58.7 million in proceeds from sale and maturity of marketable securities. For the year ended December 31, 2010, we did not acquire any equipment through capital lease arrangements.

Cash Flows Provided By or Used In Financing Activities

Cash flows provided by financing activities during 2012 were $8.9 million, which was primarily due to $9.3 million of proceeds from stock option exercises and $3.7 million of excess tax benefit associated with equity awards, partially offset by $3.4 million relating to the acquisition of treasury stock in connection with the vesting of restricted stock awards, $0.3 million of capital lease principal payments, and $0.3 million in acquisition-related earn-out payments.

Cash flows provided by financing activities during 2011 were $4.3 million, which was primarily due to $3.5 million of proceeds from stock option exercises and $3.3 million of excess tax benefit realized from equity awards vesting, partially offset by $1.7 million relating to the acquisition of treasury stock in connection with the vesting of restricted stock awards and $0.7 million of capital lease principal payments.

Cash flows used in financing activities during 2010 were $1.3 million, which was primarily due to $2.7 million of capital lease principal payments and $0.4 million relating to the acquisition of treasury stock in connection with the vesting of restricted stock awards activities, partially offset by $1.9 million of proceeds from our stock plans.

Contractual Obligations, Commitments and Contingencies

The following table of our material contractual obligations as of December 31, 2012 summarizes the aggregate effect that these obligations are expected to have on our cash flows in the periods indicated (in thousands):

	Payments Due by Period				
	Total	1 year or less	2-3 years	4-5 years	More than 5 years
Contractual Obligations:					
Operating lease obligations	$ 74,868	$ 4,257	$ 15,093	$ 13,082	$ 42,436
Capital lease obligations	161	59	102	—	—
Contingent consideration obligations	2,080	1,040	1,040	—	—
Letters of credit	3,887	3,887	—	—	—
Total	$ 80,996	$ 9,243	$ 16,235	$ 13,082	$ 42,436

On December 13, 2011, we entered into a settlement agreement with Datasci. The settlement agreement related to a lawsuit filed by Datasci in 2009 alleging breach of contract for failing to pay royalties under a prior license and settlement agreement executed between the parties in June 2007. Under the settlement agreement, we agreed to make a one-time, lump-sum payment to Datasci in the amount of $6.3 million to settle the claim and obtain an irrevocable, fully-paid, worldwide, non-exclusive license to the patent that was the subject of the claim by Datasci. Prior to negotiation of the settlement agreement, the probable outcome of this litigation had remained uncertain, as the case was in the early stages and a trial date had not been set. We had consequently been unable to reasonably estimate the amount or range of potential loss, if any, associated with this litigation. As a result, in accordance with ASC 450, *Contingencies,* we did not record a liability until the date of the settlement, when the amount of loss was determined. The related payment was made on December 16, 2011, and the full amount of the settlement was included in our results of operations for the year ended December 31, 2011. Additional information concerning this lawsuit is provided in Note 14, "Commitments and Contingencies—Legal Matters," to the consolidated financial statements included in Item 15 of this Annual Report on Form 10-K.

In January 2009, we entered into agreements with certain of our executive officers that provide them with certain benefits upon the termination of their employment following a change of control in our company. The agreements provide that, upon a qualifying event, such officers will be entitled to (a) a severance payment equal to the officer's base salary plus target bonus amount: (b) continuation of health benefits for 12 months; (c) immediate vesting of any remaining unvested equity awards; and (d) a tax gross up payment under Section 280G of the Internal Revenue Code sufficient to reimburse the officer for 50% of any excise tax payable as a result of any termination payments following a change in control, if applicable. In March 2012, we amended the agreements with our named executive officers to eliminate the 280G gross-up.

On March 4, 2011, DataTrak filed a complaint for alleged patent infringement against us in DataTrak International v. Medidata Solutions, C.A. No. 1:11-cv-00458 in the U.S. District Court for the Northern District of Ohio. The complaint asserts infringement of U.S. Patent No. 7,464,087, or the '087 Patent, which claims a method and system for unifying data from a variety of sources. The complaint asserts that we infringe the patent owned without providing any details concerning the alleged infringement, and it seeks unspecified damages and injunctive relief. On October 28, 2011, we filed an application for ex parte reexamination of the '087 Patent with the PTO. On December 16, 2011, the PTO issued a non-final rejection of the validity of all claims of the '087 Patent. On the same date, the district court granted our motion to stay the case pending reexamination of the patent-in-suit. We believe that we have valid defenses to the lawsuit and intend to defend it vigorously in the event the stay of the case is lifted. The probability of a favorable or unfavorable outcome to us in the event the stay of the case is lifted is unknown and a range of loss, if any, cannot be estimated at this time. As a result, we have not recorded an accrual associated with this litigation. Additionally, given the status of the proceedings, the complexities of the facts in dispute and the multiple claims involved, we are unable to estimate a range of loss related to this litigation.

On July 31, 2012, DataTrak was issued U.S. Patent No. 8,234,294, or the '294 Patent, which is closely related to the '087 Patent previously asserted against us. On July 31, 2012, we filed a lawsuit against DataTrak in the U.S. District Court for the District of New Jersey seeking a declaratory judgment of patent invalidity and non-infringement concerning the '294 Patent. We intend to vigorously pursue our claims and defenses concerning the '294 Patent. The ultimate outcome of this litigation cannot presently be determined, nor can the liability that could potentially result from a negative outcome be reasonably estimated. As a result, we have not recorded any accrual associated with this litigation. Additionally, given the status of the proceedings, the complexities of the facts in dispute and the multiple claims involved, we are unable to estimate a range of loss related to this litigation.

Letters of Credit

We had several outstanding standby letters of credit as of December 31, 2012 and 2011 in the total amount of $3.9 million and $0.4 million, respectively. These standby letters of credit were fully collateralized with our restricted cash and revolving line of credit under our senior secured credit facility, as amended.

Tax Uncertainties

ASC 740-10 provides that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, on the basis of the technical merits. ASC 740-10 also provides guidance on measurement, derecognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition.

We recognize tax liabilities in accordance with ASC 740-10 and we adjust these liabilities when our judgment changes as a result of the evaluation of new information not previously available. Because of the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from our current estimate of the tax liabilities. These differences will be reflected as increases or decreases to income tax expense in the period in which new information is available.

Effects of Recently Issued Accounting Standards

In May 2011, the Financial Accounting Standards Board, or FASB, issued ASU No. 2011-04, *Fair Value Measurement: Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRS.* The amendments in this ASU generally represent clarification of ASC 820-10, *Fair Value Measurements and Disclosures,* but also include instances where a particular principle or requirement for measuring fair value or for disclosing information about fair value measurements has changed. This ASU is the result of joint efforts by the FASB and International Accounting Standards Board to develop a single, converged fair value framework and guidance with respect to how to measure fair value and what disclosures to provide about fair value measurements. ASU No. 2011-04 is effective for interim and annual periods beginning after December 15, 2011. We adopted ASU No. 2011-04 on January 1, 2012 and the adoption did not have a material impact on our consolidated financial statements.

In June 2011, the FASB issued ASU No. 2011-05, *Presentation of Comprehensive Income,* which removes the presentation options contained in ASC 220, *Comprehensive Income,* and requires entities to report components of comprehensive income in either a continuous statement of comprehensive income or two separate but consecutive statements. Under the two-statement approach, the first statement would include components of net income, which is consistent with the format of statement of operations used today, and the second statement would include components of other comprehensive income. In December 2011, the FASB issued ASU No. 2011-12, *Deferral of the Effective Date for Amendments to Presentation of Reclassification of Items Out of Accumulated Other Comprehensive Income in ASU 2011-05,* to defer indefinitely the effective date of the specific requirement to present items that are reclassified out of accumulated other comprehensive income to net income alongside their respective components of net income and other comprehensive income. All other provisions of ASU No. 2011-05 are effective for interim and annual periods beginning after December 15, 2011, and must be applied retrospectively for all periods presented in the financial statements. We adopted the applicable provisions of ASU No. 2011-05 on January 1, 2012. The adoption did not have a material impact on our consolidated financial statements other than merely a change in their presentation. In February 2013, the FASB issued ASU No. 2013-02, *Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*, which supersedes and replaces the presentation requirements for reclassifications out of accumulated other comprehensive income in ASU No. 2011-05 and ASU No. 2011-12. ASU No. 2013-02 is effective for reporting periods beginning after December 15, 2012. We will adopt ASU No.2013-02 on January 1, 2013 and the adoption is not expected to have a material impact on our consolidated financial statements.

In September 2011, the FASB issued ASU No. 2011-08, *Testing Goodwill for Impairment,* which simplifies how entities test goodwill for impairment. ASU No. 2011-08 permits an entity to assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test. ASU No. 2011-08 is effective for interim and financial periods beginning after December 15, 2011, with early adoption permitted. We adopted ASU No. 2011-08 on January 1, 2012 and the adoption did not have a material impact on our consolidated financial statements.

Off-Balance Sheet Arrangements

We do not have any relationships with unconsolidated entities of financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. Other than our operating leases primarily relating to office space, we do not engage in off-balance sheet financing arrangements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Sensitivity

We had unrestricted cash and cash equivalents totaling $32.7 million at December 31, 2012. Our cash equivalents are invested principally in money market funds. We also had investment in marketable securities, which we classify as available for sale securities, totaling $89.9 million at December 31, 2012. Substantially all of our marketable securities are fixed income securities, which primarily consist of high quality commercial paper, corporate bonds, U.S. government debt obligations, and bank certificates of deposit. The unrestricted cash and cash equivalents as well as marketable securities are held for working capital purposes. We manage our cash equivalents and marketable securities as a single investment portfolio that is intended to be available to meet our current cash requirements. We do not enter into investments for trading or speculative purposes. Due to the short-term nature and high credit ratings of these investments, we believe that we do not have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates. Declines in interest rates, however, would reduce future investment income.

We have a floating rate revolving line of credit under our senior secured credit facility, as amended, which is currently undrawn. Accordingly, we will be exposed to fluctuations in interest rates if such revolving line of credit is drawn. Assuming the maximum available amount of our revolving line of credit was drawn as of December 31, 2012, each hundred basis point change in prime rate or LIBOR would result in a change in interest expense by an average of approximately $0.1 million annually.

Exchange Rate Sensitivity

We have two separate exposures to currency fluctuation risk: subsidiaries outside the United States which use a foreign currency as their functional currency which are translated into U.S. dollars for consolidation and non-U.S. dollar invoiced revenues.

Changes in foreign exchange rates for our subsidiaries that use a foreign currency as their functional currency are translated into U.S. dollars and result in cumulative translation adjustments, which are included in accumulated other comprehensive income (loss). We have translation exposure to various foreign currencies, including the Euro, British Pound Sterling and Japanese Yen. The potential translation loss estimated for 2012 resulting from a hypothetical 10% adverse change in quoted foreign currency exchange rates amounts to $1.3 million.

We generally invoice our customers in U.S. dollars. However, we invoice a portion of customers in foreign currencies, the majority of which is denominated in the Euro, British Pound Sterling, Australian Dollar, and Canadian Dollar. As such, the fluctuations in such currencies could impact our operating results.

Impact of Inflation

We do not believe that inflation has had a material effect on our business, financial condition or results of operations. If our costs were to become subject to significant inflationary pressures, we might not be able to offset these higher costs fully through price increases. Our inability or failure to do so could harm our business, operating results and financial condition.

Fair Value of Financial Instruments

ASC 825-10, *Financial Instruments*, requires disclosure about fair value of financial instruments. The carrying amounts of our financial instruments, which consist of cash and cash equivalents, receivables, accounts payable and accrued liabilities, approximate fair value because of the short maturity of these instruments. Fair values of marketable securities are based on unadjusted quoted market prices or pricing models using current market data that are observable either directly or indirectly. The fair value of contingent consideration is determined based on the likelihood of contingent earn-out payments. All methods of assessing fair value result in a general approximation of value, and such value may never actually be realized.

Item 8. Financial Statements and Supplementary Data

The consolidated financial statements and supplementary data are listed under Part IV, Item 15, in this Annual Report on Form 10-K.

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

Not applicable.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of December 31, 2012, an evaluation was performed with the participation of our Disclosure Committee and our management, including the Chief Executive Officer, or CEO, and the Chief Financial Officer, or CFO, of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Disclosure controls and procedures are controls and procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures are also designed to ensure that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosure. Based upon such evaluation, our CEO and CFO have concluded that our disclosure controls and procedures were effective as of December 31, 2012.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

All internal control systems, no matter how well designed, have inherent limitations, Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In making the assessment of the effectiveness of our internal control over financial reporting as of December 31, 2012, our management used the criteria set forth in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission, or COSO. Based on our assessment, we determined that our internal control over financial reporting was effective based on those criteria as of December 31, 2012.

Deloitte & Touche LLP, our independent registered public accounting firm, has performed an audit of the effectiveness of our internal control over financial reporting as of December 31, 2012, based on criteria established in *Internal Control—Integrated Framework* issued by the COSO. This audit is required to be performed in accordance with the standards of the Public Company Accounting Oversight Board (United States). Our independent auditors were given unrestricted access to all financial records and related data. The attestation reporting on the effectiveness of our internal control over financial reporting as of December 31, 2012 issued by our independent registered public accounting firm is included at the end of Item 9A in this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during our most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Medidata Solutions, Inc.
New York, New York

We have audited the internal control over financial reporting of Medidata Solutions, Inc. (the "Company") as of December 31, 2012, based on the criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

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

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

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on the criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2012 and our report dated March 8, 2013, expressed an unqualified opinion and includes an explanatory paragraph regarding adoption of Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") No. 2009-13, Multiple Deliverable Revenue Arrangements, on those consolidated financial statements and financial statement schedule.

/s/ DELOITTE & TOUCHE LLP

New York, New York

March 8, 2013

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item 10 is incorporated by reference to our Proxy Statement to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2012 in connection with our 2013 Annual Meeting of Stockholders.

Item 11. Executive Compensation

The information required by this Item 11 is incorporated by reference to our Proxy Statement to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2012 in connection with our 2013 Annual Meeting of Stockholders.

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

The information required by this Item 12 is incorporated by reference to our Proxy Statement to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2012 in connection with our 2013 Annual Meeting of Stockholders.

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

The information required by this Item 13 is incorporated by reference to our Proxy Statement to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2012 in connection with our 2013 Annual Meeting of Stockholders.

Item 14. Principal Accounting Fees and Services

The information required by this Item 14 is incorporated by reference to our Proxy Statement to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2012 in connection with our 2013 Annual Meeting of Stockholders.

PART IV

Item 15. Exhibits and Financial Statement Schedule

(a) We have filed the following documents as part of this Form 10-K:

1. Consolidated Financial Statements

	Page
Report of Independent Registered Public Accounting Firm	F-1
Consolidated Balance Sheets as of December 31, 2012 and 2011	F-2
Consolidated Statements of Operations for the years ended December 31, 2012, 2011 and 2010	F-3
Consolidated Statements of Comprehensive Income for the years ended December 31, 2012, 2011 and 2010	F-4
Consolidated Statements of Stockholders' Equity for the years ended December 31, 2012, 2011 and 2010	F-5
Consolidated Statements of Cash Flows for the years ended December 31, 2012, 2011 and 2010	F-6
Notes to Consolidated Financial Statements	F-8

2. Financial Statement Schedule

	Page
Schedule II—Valuation and Qualifying Accounts	F-30

All other schedules are omitted because they are not required or the required information is shown in the financial statements or notes thereto.

3. Exhibits.

The information required by this Item 15 is set forth on the exhibit index that follows the signature page of this report.

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.

MEDIDATA SOLUTIONS, INC.

By: /S/ TAREK A. SHERIF
Tarek A. Sherif
Chairman and Chief Executive Officer

Date: March 8, 2013

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 dates indicated:

Signature	Title	Date
/S/ TAREK A. SHERIF **Tarek A. Sherif**	Chairman, Chief Executive Officer (*Principal Executive Officer*) and Director	March 8, 2013
/S/ CORY A. DOUGLAS **Cory A. Douglas**	Chief Financial Officer (*Principal Financial and Chief Accounting Officer*)	March 8, 2013
/S/ GLEN M. DE VRIES **Glen M. de Vries**	President and Director	March 8, 2013
/S/ CARLOS DOMINGUEZ **Carlos Dominguez**	Director	March 8, 2013
/S/ NEIL M. KURTZ, M. D. **Neil M. Kurtz, M.D.**	Director	March 8, 2013
/S/ GEORGE W. MCCULLOCH **George W. McCulloch**	Director	March 8, 2013
/S/ LEE A. SHAPIRO **Lee A. Shapiro**	Director	March 8, 2013
/S/ ROBERT B. TAYLOR **Robert B. Taylor**	Director	March 8, 2013

EXHIBIT INDEX

Exhibit No.	Description
3.1(3)	Fourth Amended and Restated Certificate of Incorporation.
3.2(3)	Amended and Restated Bylaws.
4.1(3)	Specimen common stock certificate.
10.1(3)	Form of Officer and Director Indemnification Agreement.
10.2(2)†	Medidata Solutions, Inc. Amended and Restated 2000 Stock Option Plan.
10.3(2)†	Form of Medidata Solutions, Inc. Amended and Restated 2000 Stock Option Plan Option Agreement.
10.4(7)†	Medidata Solutions, Inc. Amended and Restated 2009 Long-Term Incentive Plan.
10.5(3)†	Form of Medidata Solutions, Inc. 2009 Long-Term Incentive Plan Stock Option Agreement.
10.6(3)†	Form of Medidata Solutions, Inc. 2009 Long-Term Incentive Plan Restricted Stock Agreement.
10.7(2)	Loan and Security Agreement, dated as of September 10, 2008, by and among Medidata Solutions, Inc., Medidata FT, Inc. and Silicon Valley Bank.
10.8(2)	First Loan Modification Agreement, dated as of December 31, 2008, by and among Silicon Valley Bank, Medidata Solutions, Inc. and Medidata FT Inc.
10.9(2)†	Form of Executive Change in Control Agreement.
10.10(6)†	Form of Amendment No. 1 to Executive Change in Control Agreements.
10.11(1)	Lease between AGBRI Fannin L.P. and Medidata Solutions, Inc., dated March 13, 2006, as amended on March 8, 2007 and June 3, 2008, for space at the premises located at 1301 Fannin Street, Houston, Texas.
10.12(1)	Lease between ARR Kalimian Realty, L.P. and Medidata Solutions, Inc., dated September 23, 2003, as amended on March 13, 2008, for space at the premises located at 79 Fifth Avenue, New York, New York.
10.13(4)	Second Loan Modification Agreement entered into as of June 30, 2010 by and among Medidata Solutions, Inc., Medidata FT, Inc. and Silicon Valley Bank.
10.14(8)	Agreement of Lease between The Rector, Church-Wardens and Vestrymen of Trinity Church in the City of New York and Medidata Solutions, Inc. dated October 19, 2012.
21.1(5)	Subsidiaries of Medidata Solutions, Inc.
23.1*	Consent of Deloitte & Touche LLP.
31.1*	Rule 13a-14(a) or 15d-14 Certification of Chief Executive Officer
31.2*	Rule 13a-14(a) or 15d-14 Certification of Chief Financial Officer
32.1**	Certification of Chief Executive Officer pursuant to Exchange Act rules 13a-14(b) or 15d-14(b) and 18 U.S.C. Section 1350
32.2**	Certification of Chief Financial Officer pursuant to Exchange Act rules 13a-14(b) or 15d-14(b) and 18 U.S.C. Section 1350
101.INS***	XBRL Instance Document
101.SCH***	XBRL Taxonomy Extension Schema Document
101.CAL***	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF***	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB***	XBRL Taxonomy Extension Label Linkbase Document
101.PRE***	XBRL Taxonomy Presentation Linkbase Document

* Filed herewith.

** Furnished herewith.

*** In accordance with Rule 406T of Regulation S-T, the information in Exhibit 101 is furnished and deemed not filed or a part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, is deemed not filed for purposes of Section 18 of the Exchange Act of 1934, and otherwise is not subject to liability under these sections and shall not be incorporated by reference into any registration statement or other document filed under the Securities Act of 1933, as amended, except as expressly set forth by specific reference in such filing.

† Indicates a management contract or any compensatory plan, contract or arrangement.

(1) Incorporated by reference to Medidata Solutions, Inc.'s Amendment No. 1 to Registration Statement on Form S-1 (SEC File No. 333-156935) filed on March 23, 2009.

(2) Incorporated by reference to Medidata Solutions, Inc.'s Amendment No. 2 to Registration Statement on Form S-1 (SEC File No. 333-156935) filed on May 15, 2009.

(3) Incorporated by reference to Medidata Solutions, Inc.'s Amendment No. 3 to Registration Statement on Form S-1 (SEC File No. 333-156935) filed on June 3, 2009.

(4) Incorporated by reference to Exhibit 10.1 of Medidata Solutions, Inc.'s Current Report on Form 8-K filed on July 1, 2010.

(5) Incorporated by reference to the same numbered exhibit to Medidata Solutions, Inc.'s Annual Report on Form 10-K filed on March 16, 2011.

(6) Incorporated by reference to Exhibit 10.1 of Medidata Solutions Inc.'s Current Report on Form 8-K filed on March 5, 2012.

(7) Incorporated by reference to Exhibit 10.1 of Medidata Solutions Inc.'s Current Report on Form 8-K filed on May 4, 2012.

(8) Incorporated by reference to Exhibit 10.1 of Medidata Solutions Inc.'s Current Report on Form 8-K filed on October 23, 2012.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Medidata Solutions, Inc.
New York, New York

We have audited the accompanying consolidated balance sheets of Medidata Solutions, Inc. (the "Company") as of December 31, 2012 and 2011, and the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2012. Our audits also included the information included in the financial statement schedule listed in the Index at Item 15(a)2. These consolidated financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on the consolidated financial statements and financial statement schedule 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 consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2012 and 2011, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2012, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

As discussed in Note 2 to the consolidated financial statements, under the heading Multiple-Element Arrangements, the Company adopted Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") No. 2009-13, Multiple Deliverable Revenue Arrangements, effective January 1, 2011.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2012, based on the criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 8, 2013, expressed an unqualified opinion on the Company's internal control over financial reporting.

/s/ DELOITTE & TOUCHE LLP

New York, New York

March 8, 2013

MEDIDATA SOLUTIONS, INC.
CONSOLIDATED BALANCE SHEETS
(Amounts in thousands, except per share data)

	December 31, 2012	December 31, 2011
ASSETS		
Current assets:		
Cash and cash equivalents	$ 32,683	$ 45,214
Marketable securities	89,871	62,463
Accounts receivable, net of allowance for doubtful accounts of $747 and $882, respectively	42,359	22,970
Prepaid commission expense	2,281	1,743
Prepaid expenses and other current assets	8,042	4,380
Deferred income taxes	7,465	10,896
Total current assets	182,701	147,666
Restricted cash	388	388
Furniture, fixtures and equipment, net	10,474	9,825
Goodwill	15,382	15,164
Intangible assets, net	1,708	3,425
Deferred income taxes – long-term	11,055	11,581
Other assets	2,923	1,786
Total assets	$ 224,631	$ 189,835
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 2,998	$ 3,861
Accrued payroll and other compensation	14,140	9,854
Accrued expenses and other	6,674	5,886
Deferred revenue	50,348	51,225
Capital lease obligations	55	114
Total current liabilities	74,215	70,940
Noncurrent liabilities:		
Deferred revenue, less current portion	4,323	12,037
Deferred tax liabilities	624	629
Capital lease obligations, less current portion	100	136
Other long-term liabilities	3,278	1,976
Total noncurrent liabilities	8,325	14,778
Total liabilities	82,540	85,718
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, par value $0.01 per share; 5,000 shares authorized, none issued and outstanding	—	—
Common stock, par value $0.01 per share; 100,000 shares authorized, 26,405 and 25,053 shares issued; 26,039 and 24,888 shares outstanding, respectively	264	250
Additional paid-in capital	160,637	137,556
Treasury stock, 366 and 165 shares, respectively	(5,626)	(2,186)
Accumulated other comprehensive loss	(63)	(362)
Accumulated deficit	(13,121)	(31,141)
Total stockholders' equity	142,091	104,117
Total liabilities and stockholders' equity	$ 224,631	$ 189,835

The accompanying notes are an integral part of the consolidated financial statements.

MEDIDATA SOLUTIONS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Amounts in thousands, except per share data)

	Year Ended December 31,		
	2012	2011	2010
Revenues			
Application services	$ 171,647	$ 144,436	$ 136,395
Professional services	46,700	40,023	30,031
Total revenues	218,347	184,459	166,426
Cost of revenues(1)(2)			
Application services	32,600	28,408	26,400
Professional services	30,062	24,423	25,847
Total cost of revenues	62,662	52,831	52,247
Gross profit	155,685	131,628	114,179
Operating costs and expenses:			
Research and development(1)	42,276	29,568	25,772
Sales and marketing(1)(2)	47,739	36,147	30,721
General and administrative(1)	37,777	37,056	34,379
Litigation settlement	—	6,300	—
Total operating costs and expenses	127,792	109,071	90,872
Operating income	27,893	22,557	23,307
Interest and other income (expense):			
Interest expense	(138)	(123)	(237)
Interest income	280	293	379
Other income, net	34	238	273
Total interest and other income, net	176	408	415
Income before provision for income taxes	28,069	22,965	23,722
Provision for income taxes	10,049	(16,433)	905
Net income	$ 18,020	$ 39,398	$ 22,817
Earnings per share:			
Basic	$ 0.73	$ 1.67	$ 0.99
Diluted	$ 0.71	$ 1.60	$ 0.95
Weighted average common shares outstanding:			
Basic	24,546	23,646	22,958
Diluted	25,469	24,657	24,062

(1) Stock-based compensation expense included in cost of revenues and operating costs and expenses is as follows:

Cost of revenues	$ 1,751	$ 1,263	$ 755
Research and development	1,049	745	525
Sales and marketing	2,871	2,014	1,461
General and administrative	5,243	4,798	3,753
Total stock-based compensation	$ 10,914	$ 8,820	$ 6,494

(2) Amortization of intangible assets included in cost of revenues and operating costs and expenses is as follows:

Cost of revenues	$ 1,276	$ 1,088	$ 1,107
Sales and marketing	516	501	352
Total amortization of intangible assets	$ 1,792	$ 1,589	$ 1,459

The accompanying notes are an integral part of the consolidated financial statements.

MEDIDATA SOLUTIONS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Amounts in thousands)

	Year Ended December 31,		
	2012	2011	2010
Net income	$ 18,020	$ 39,398	$ 22,817
Other comprehensive income (loss):			
Foreign currency translation adjustments	282	(186)	61
Unrealized gain (loss) on marketable securities	31	(59)	68
Other comprehensive income (loss)	313	(245)	129
Income tax related to unrealized gain on marketable securities	(14)	—	—
Other comprehensive income (loss), net of tax	299	(245)	129
Comprehensive income, net of tax	$ 18,319	$ 39,153	$ 22,946

The accompanying notes are an integral part of the consolidated financial statements.

MEDIDATA SOLUTIONS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Amounts in thousands)

	Common Stock		Additional Paid-in Capital	Treasury Stock		Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total
	Shares	Amount		Shares	Amount			
Balance—January 1, 2010	22,900	$ 229	$ 113,674	5	$ (69)	$ (246)	$ (93,356)	$ 20,232
Comprehensive income:								
Net income	—	—	—	—	—	—	22,817	22,817
Foreign currency translation adjustment	—	—	—	—	—	61	—	61
Net unrealized loss on marketable securities	—	—	—	—	—	68	—	68
Total comprehensive income	—	—	—	—	—	129	22,817	22,946
Stock options exercised	687	7	1,745	—	—	—	—	1,752
Reversal of tax benefit associated with equity awards	—	—	(56)	—	—	—	—	(56)
Stock-based compensation	—	—	6,494	—	—	—	—	6,494
Nonvested restricted stock awards granted	547	5	(5)	—	—	—	—	—
Acquisition of treasury stock	—	—	—	25	(405)	—	—	(405)
Nonvested restricted stock awards forfeited	—	—	—	22	—	—	—	—
Issuance of common stock in connection with employee stock purchase plan	7	—	163	—	—	—	—	163
Balance—December 31, 2010	24,141	241	122,015	52	(474)	(117)	(70,539)	51,126
Comprehensive income:								
Net income	—	—	—	—	—	—	39,398	39,398
Foreign currency translation adjustment	—	—	—	—	—	(186)	—	(186)
Net unrealized gain on marketable securities	—	—	—	—	—	(59)	—	(59)
Total comprehensive income	—	—	—	—	—	(245)	39,398	39,153
Stock options exercised	433	4	3,471	—	—	—	—	3,475
Tax benefit associated with equity awards	—	—	3,255	—	—	—	—	3,255
Stock-based compensation	—	—	8,820	—	—	—	—	8,820
Nonvested restricted stock awards granted	479	5	(5)	—	—	—	—	—
Acquisition of treasury stock	—	—	—	77	(1,712)	—	—	(1,712)
Nonvested restricted stock awards forfeited	—	—	—	36	—	—	—	—
Balance—December 31, 2011	25,053	250	137,556	165	(2,186)	(362)	(31,141)	104,117
Comprehensive income:								
Net income	—	—	—	—	—	—	18,020	18,020
Foreign currency translation adjustment	—	—	—	—	—	282	—	282
Net unrealized loss on marketable securities	—	—	—	—	—	17	—	17
Total comprehensive income	—	—	—	—	—	299	18,020	18,319
Stock options exercised	945	10	9,318	—	—	—	—	9,328
Tax benefit associated with equity awards	—	—	2,852	—	—	—	—	2,852
Stock-based compensation	—	—	10,914	—	—	—	—	10,914
Nonvested restricted stock awards granted	407	4	(4)	—	—	—	—	—
Acquisition of treasury stock	—	—	—	121	(3,439)	—	—	(3,439)
Nonvested restricted stock awards forfeited	—	—	1	80	(1)	—	—	—
Balance—December 31, 2012	26,405	$ 264	$ 160,637	366	$ (5,626)	$ (63)	$ (13,121)	$ 142,091

The accompanying notes are an integral part of the consolidated financial statements.

MEDIDATA SOLUTIONS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in thousands)

	Year Ended December 31,		
	2012	2011	2010
Cash flows from operating activities:			
Net income	$ 18,020	$ 39,398	$ 22,817
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	7,934	7,817	9,179
Stock-based compensation	10,914	8,820	6,494
Amortization of discounts or premiums on marketable securities	1,573	1,290	1,144
Deferred income taxes	3,123	(21,693)	(131)
Amortization of debt issuance costs	60	60	57
Excess tax benefit associated with equity awards	(3,655)	(3,255)	56
Contingent consideration adjustment	319	223	—
Changes in operating assets and liabilities:			
Accounts receivable	(15,891)	12,396	(15,381)
Prepaid commission expense	(1,426)	874	(42)
Prepaid expenses and other current assets	(2,553)	1,725	(2,731)
Other assets	(1,372)	(505)	—
Accounts payable	(823)	885	1,027
Accrued payroll and other compensation	4,286	(1,678)	683
Accrued expenses and other	2,226	4,243	(3,152)
Deferred revenue	(11,471)	(21,908)	(13,942)
Other long-term liabilities	1,981	(24)	106
Net cash provided by operating activities	13,245	28,668	6,184
Cash flows from investing activities:			
Purchases of furniture, fixtures and equipment	(5,742)	(4,411)	(7,407)
Purchases of available-for-sale marketable securities	(109,320)	(117,098)	(79,573)
Proceeds from sale of available-for-sale marketable securities	80,370	122,759	58,662
Acquisition of business, net of cash acquired	—	(5,166)	—
Decrease in restricted cash	—	144	—
Net cash used in investing activities	(34,692)	(3,772)	(28,318)
Cash flows from financing activities:			
Proceeds from exercise of stock options	9,328	3,475	1,752
Excess tax benefit associated with equity awards	3,655	3,255	(56)
Payment of acquisition-related earn-out	(251)	—	—
Repayment of obligations under capital leases	(268)	(725)	(2,736)
Acquisition of treasury stock	(3,439)	(1,712)	(405)
Repayment of notes payable	(113)	—	—
Payment of debt issuance costs	—	—	(21)
Proceeds from issuance of stock in connection with employee stock purchase plan	—	—	163
Net cash provided by (used in) financing activities	8,912	4,293	(1,303)
Net (decrease) increase in cash and cash equivalents	(12,535)	29,189	(23,437)
Effect of exchange rate changes on cash and cash equivalents	4	—	13
Cash and cash equivalents—Beginning of period	45,214	16,025	39,449
Cash and cash equivalents—End of period	$ 32,683	$ 45,214	$ 16,025

The accompanying notes are an integral part of the consolidated financial statements.

MEDIDATA SOLUTIONS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS, CONTINUED
(Amounts in thousands)

	Year Ended		
	2012	2011	2010
Supplemental disclosures of cash flow information:			
Cash paid during the period for:			
Interest	$ 44	$ 53	$ 173
Income taxes	$ 2,575	$ 1,692	$ 2,893
Noncash activities:			
Furniture, fixtures and equipment acquired through capital lease obligations	$ 26	$ 195	$ —
Furniture, fixtures and equipment acquired but not yet paid for at period-end	$ 1,769	$ 878	$ 486
Issuance of notes payable in connection with acquisition-related earn-out payments	$ 171	$ —	$ —
Contingent consideration associated with acquisition of business, at fair value	$ —	$ 1,819	$ —

The accompanying notes are an integral part of the consolidated financial statements.

1. ORGANIZATION

Medidata Solutions, Inc. (the "Company") provides cloud-based solutions for life sciences that optimize the efficiency of its customers' clinical development processes. The Company's solutions allow its customers to increase the value of their clinical development by more efficiently and effectively designing, planning and managing key aspects of the clinical trial process, including study and protocol design, trial planning and budgeting, site negotiation, clinical portal, trial management, randomization and trial supply management, clinical data capture and management, safety events capture, medical coding, clinical business analytics, and data flow and interoperability among multiple trial applications.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation—The accompanying consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP"). All intercompany balances and transactions have been eliminated in consolidation.

For purposes of these consolidated financial statements, the years ended December 31, 2012, 2011 and 2010 are referred to as 2012, 2011 and 2010, respectively.

Use of Estimates—The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, including deferred revenue, and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results may differ from those estimates.

Revenue Recognition—The Company derives its revenues from the sale of its various application services and the rendering of professional services. The Company recognizes revenue when all of the following conditions are satisfied: (1) persuasive evidence of an arrangement exists; (2) service has been delivered to the customer; (3) amount of the fees to be paid by the customer is fixed or determinable; and (4) collection of the fees is reasonably assured or probable.

Application Services

The Company typically enters into multi-study and single-study arrangements that include the sale of software licenses that provide the customer the "right to use" the software, as well as hosting and other support services, to be provided over a specified term. Multiple study arrangements grant the customer the right to manage a predetermined number of clinical trials simultaneously for a term typically ranging from one to five years. Single-study arrangements allow customers to use the Company's technology on a per trial basis.

The Company provides its software as a service and recognizes revenues in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 605-10-S99, *Revenue Recognition—SEC Materials*. Revenues from application service arrangements are recognized ratably over the term of the arrangement, beginning with the commencement of the arrangement term, which generally correlates with the activation of the hosting services, assuming all other revenue recognition criteria are met. The term of the arrangement includes optional renewal periods, if such renewal periods are likely to be exercised.

Revenue for multi-study arrangements and several of the Company's trial planning software solutions where the customer has the ability to self host, or the customer has the contractual right to take possession of the software at any time during the hosting period without significant penalty and it is feasible for the customer to either run the software on its own hardware or contract with another unrelated party to host the software, is recognized in accordance with ASC 985-605, *Software—Revenue Recognition.*

Professional Services

The Company also provides a range of professional services that its customers have the ability to utilize on an as-needed basis. These services generally include training, implementation, interface creation, trial configuration, data testing, reporting, procedure documentation and other customer-specific services. Professional services do not result in significant alterations to the underlying software.

In certain situations, when professional services are sold separate and apart from application services, they are recognized as services are rendered or using a proportional performance method based on services performed for fixed fee professional services.

In accordance with ASC 605-45, *Revenue Recognition—Principal Agent Considerations*, the Company included $0.5 million, $0.5 million and $0.6 million of reimbursable out-of-pocket expenses in professional services revenues in 2012, 2011 and 2010, respectively.

Multiple-Element Arrangements

The Company may also enter into arrangements to provide a combination of its offerings of application services and professional services.

In October 2009, the FASB issued Accounting Standards Update ("ASU") No. 2009-13, *Multiple Deliverable Revenue Arrangements*. ASU No. 2009-13 amended the guidance on arrangements with multiple deliverables under ASC 605-25, *Revenue Recognition—Multiple-Element Arrangements*, to:

- eliminate the separation criterion that requires entities to establish objective and reliable evidence of fair value for undelivered elements;
- eliminate the residual allocation method which will be replaced by the relative selling price allocation method for all arrangements; and
- establish a selling price hierarchy to help entities allocate arrangement consideration to the separate units of account. The selling price hierarchy is defined as follows:
  - Vendor-specific objective evidence ("VSOE")—the price charged for a deliverable when it is sold separately.
  - Third-party evidence ("TPE")—the price of the vendor's or any competitor's largely interchangeable products or services in standalone sales to similarly situated customers.
  - Estimated selling price ("ESP")—the price best estimated by the vendor and at which the vendor would transact if the deliverable would have been sold by the vendor regularly on a standalone basis.

The Company adopted ASU No. 2009-13 on January 1, 2011. As a result, the revenues for the majority of the Company's multiple-element arrangements entered into or materially modified in 2011 or later are recognized in accordance with the provisions of ASU No. 2009-13.

To qualify as a separate unit of accounting under ASC 605-25, the delivered item must have value to the customer on a standalone basis. The significant deliverables under the Company's multiple-element arrangements are application services and professional services.

The Company determined that its various application services are individually considered separate units of accounting. In determining whether each service has standalone value, the Company considered factors including the availability of similar services from other vendors, its fee structure based on inclusion and exclusion of the service, and its marketing and delivery of the service. Since the Company provides cloud-based application services, the service components of the application services provided, including license, hosting and support, are combined and accounted for as a separate unit of accounting. The Company uses ESP to determine the selling price for its application services when sold in multiple-element arrangements, as the Company does not have VSOE for these application services and TPE is not a practical alternative due to differences in features and functionality as compared with other companies' offerings.

The Company also determined that the professional services have standalone value because those services are sold separately by other vendors. The Company uses ESP to determine the selling price for professional services when sold in multiple-element arrangements. Due to insufficient reliable pricing data, the Company is unable to establish VSOE. While other vendors offer similar services, they represent a small component of the vendor's total offerings. As a result, the Company is unable to reliably determine TPE on a standalone basis.

The Company determines its single-point ESP for application services and professional services as follows:

- Application services—the Company has developed an internal pricing tool that provides price quotes for application services configurations. Any new and potential customer application service arrangements must be priced through the utilization of the Company's internal pricing tool. The Company has established an internal committee to monitor compliance and evaluate pricing data on a periodic basis. This evaluation includes the review of actual historical pricing data, market conditions consideration and the review of pricing strategies and practices. Any necessary pricing modification made to the internal pricing tool is supported by the result of such evaluation. Accordingly, the Company's ESP for application services is obtained from this internal pricing tool.

- Professional services---the Company evaluates internal historical professional services pricing data to determine average pricing rates by type of professional services rendered. These averages are utilized to determine ESP for professional services, and are reviewed and updated at least annually.
- The Company believes the effect of changes in either the selling price, or the method, or assumptions used to determine ESP for application services and professional services will not have significant effect on the allocation of the arrangement consideration as the ESP for the above deliverables are based on historical pricing data.

For multiple-element arrangements entered into or materially modified in 2011 or later, the Company allocates the arrangement consideration based on their relative ESP. Revenues for deliverables under application services are recognized ratably over the term of the arrangement, beginning with the commencement of the arrangement term, which generally correlates with the activation of the hosting services, assuming all other revenue recognition criteria are met. Revenues for deliverables under professional services are recognized using a proportional performance method or as services are rendered.

For multiple-element arrangements entered into prior to 2011, the Company accounts for these arrangements as a combined single unit of accounting, which includes application services and professional services, and the related revenues are recognized ratably beginning with the commencement of the arrangement term, assuming all other remaining revenue recognition criteria are met. Revenues for any deliverables included in multiple-element arrangements that are within the scope of ASC 985-605 will continue to be recognized under such accounting standards.

The change in accounting policy in connection with the adoption of ASU No. 2009-13 accelerated the timing of professional services revenue recognition in multiple-element arrangements. For multiple–element arrangements entered into in 2011 or later, the Company recognizes professional services revenues as rendered, subject to the proportional performance methodology, as a separate unit of accounting. For multiple-element arrangements entered into prior to 2011 but materially modified in 2011 or later, the Company recognizes professional services revenues as rendered (based upon the proportional performance method) starting from the date of the modification, and any deferred professional services revenue, as previously required under the former accounting policy, is evaluated and potentially recognized as revenues based upon the completion of detailed review of the total consideration provided in the modified arrangement. See "Deferred Revenue" below for additional information. Finally, the change in accounting policy impacts application services revenue recognition in multiple-element arrangements to the extent that the start of revenue recognition for application services is not dependent upon the delivery of professional services, which was a requirement under the Company's former single unit of accounting revenue recognition policy for multiple-element arrangements.

For multiple-element arrangements entered into prior to 2011, management's estimate of fair value for professional services is used to derive a reasonable approximation for presenting application services and professional services separately in its consolidated financial statements.

Deferred Revenue

Deferred revenue consists of billings or payments received in advance of revenue recognition and is recognized as the revenue recognition criteria are met. Amounts that have been invoiced are initially recorded in accounts receivable and deferred revenue. The Company invoices its customers in accordance with the terms of the underlying contract, usually in installments in advance of the related service period. Accordingly, the deferred revenue balance does not represent the total contract value of outstanding arrangements. Payment terms are typically net 30 to 45 days. Deferred revenue that is expected to be recognized during the subsequent 12-month period is recorded as current deferred revenue and the remaining portion as non-current deferred revenue.

In some instances, customers elect to renew their application services arrangements prior to the original termination date of the arrangement. The renewed application services agreement provides support for in-process clinical trials, and includes the "right to use" the software for initial clinical studies. As such, the unrecognized portion of the deferred revenue associated with the initial arrangement is aggregated with the consideration received upon renewal and recognized as revenues over the renewed term of the application services arrangement.

In connection with the adoption of ASU No. 2009-13 on January 1, 2011, the recognizable portion of any remaining deferred revenue associated with multiple-element arrangements that are materially modified in 2011 or later is calculated based on an allocation of the total arrangement consideration (which includes the consideration of the modified arrangement plus the remaining balance of deferred revenue) to the remaining deliverables on the basis of their relative selling price. If the total arrangement consideration exceeds the sum of the total selling prices for the remaining deliverables, the surplus is recognized as revenues in the period of modification. If the total arrangement consideration does not exceed the sum of the total selling prices for the remaining deliverables, the shortfall is considered a discount and allocated to the remaining deliverables utilizing a relative-selling price method.

Cost of Revenues—Cost of revenues primarily consists of costs related to hosting, maintaining and supporting the Company's application suite and delivering professional services and support. These costs include salaries, benefits, bonuses and stock-based compensation for the Company's data center and professional services staffs. Cost of revenues also includes costs associated with the Company's data center, including networking and related depreciation expense; as well as outside service provider costs, amortization expense and general overhead. The Company allocates general overhead, such as applicable shared rent and utilities, to cost of revenues based on relative headcount.

Software Development Costs—Costs incurred in the research and development of new software products and enhancements to existing software products are expensed as incurred under ASC 730, *Research and Development.* Internally developed software costs are capitalized under ASC 985-20, *Software—Costs of Software to Be Sold, Leased, or Marketed,* when technological feasibility is reached which is not until a working model is developed, and the functionality is tested and determined to be compliant with all federal and international regulations. As such, no internally developed software costs have been capitalized during 2012, 2011 or 2010.

Stock-Based Compensation—The Company follows ASC 718, *Compensation—Stock Compensation*, to account for all of its stock-based compensation plans. The fair value of each option grant is estimated on the date of grant using the Black-Scholes pricing model. The Company uses stock price volatility of a group of peer companies as a basis for determining the expected volatility, together with the closing prices of the Company's publicly-traded stock. Management believes this is the best estimate of the expected volatility over the weighted-average expected life of its option grants. The Company has increased and will continue to increase the weight of its own stock price volatility within the weighted average over time as sufficient trading history is established. As the Company does not have sufficient historical exercise data in the period since its stock began being publicly traded to provide a reasonable basis upon which to estimate the expected life, the Company uses the simplified method as allowed under Securities and Exchange Commission Staff Accounting Bulletin No. 110 for estimating the expected life of options as all of its options qualify as "plain-vanilla" options. The risk-free interest rate is based on the United States Treasury yield curve in effect at the time of the option grant with a maturity tied to the expected life of the options. No dividends are expected to be declared by the Company at this time. The fair value of each nonvested restricted stock award grant is measured as if the nonvested restricted stock was vested and issued on the grant date. The fair value of all stock-based compensation awards is amortized to expense, net of estimated forfeitures, on a straight-line basis over the vesting period. Forfeiture assumptions used in amortizing stock-based compensation expense are based on analysis of historical data.

Income Taxes—The Company uses the asset and liability method of accounting for income taxes, as prescribed by ASC 740, *Income Taxes*, which recognizes deferred tax assets and liabilities for the 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 recovered 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. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized.

All of the taxes on the Company's undistributed earnings from its foreign subsidiaries are included in U.S. current income taxes under Internal Revenue Code Section 956. As a result, no deferred income tax liability associated with the Company's undistributed earnings was recorded.

In addition, the Company follows ASC 740-10 for the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the consolidated financial statements. Under ASC 740-10, the Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position.

Comprehensive Income—ASC 220, *Comprehensive Income*, established standards for reporting and displaying comprehensive income and its components (revenues, expenses, gains and losses) in a full set of general-purpose financial statements. The Company's other comprehensive income results from foreign currency translation adjustments and unrealized holding gains and losses for investments on available-for-sale securities.

Cash and Cash Equivalents—The Company considers all money market accounts and other highly liquid investments purchased with original maturities of three months or less to be cash and cash equivalents. The fair value of cash and cash equivalents approximates the amounts shown on the consolidated financial statements.

Marketable Securities—In accordance with ASC 320-10, *Investments-Debt and Equity Securities,* and based on the Company's intentions regarding these instruments, the Company classifies substantially all of its fixed income marketable securities as available-for-sale. Accordingly, marketable securities are reported at fair value, with all unrealized holding gains and losses reflected in stockholders' equity. If it is determined that an investment has an other than temporary decline in fair value, the Company recognizes the investment loss in other income (expense), net in the consolidated statements of operations. The Company periodically evaluates the investments to determine if impairment charges are required.

Accounts Receivable—Accounts receivable are recorded at original invoice amount less an allowance that management believes will be adequate to absorb estimated losses on existing accounts receivable. The allowance is based on an evaluation of the collectability of accounts receivable and prior bad debt experience. Accounts receivable are written off when deemed uncollectible. Unbilled accounts receivable consist of revenue recognized in excess of billings, substantially all of which is expected to be billed and collected within one year. As of December 31, 2012 and 2011, unbilled accounts receivable of $3.1 million and $0.8 million, respectively, were included in accounts receivable on the Company's consolidated balance sheets.

Prepaid Commission Expense—For arrangements where revenue is recognized over the relevant contract period, the Company capitalizes related sales commissions that have been paid and recognizes these expenses over the period the related revenue is recognized. Commissions are payable to the Company's sales representatives upon payment from the customer. The Company amortized prepaid commissions of $6.7 million, $6.7 million and $4.9 million in 2012, 2011 and 2010, respectively, which are included within sales and marketing expense in the consolidated statements of operations. Prepaid commissions that will be recognized during the subsequent 12-month period are recorded as current prepaid commissions and the remaining portion included in other non-current assets.

Restricted Cash—Restricted cash represents deposits made to fully collateralize certain standby letters of credit issued in connection with office lease arrangements.

Furniture, Fixtures and Equipment—Furniture, fixtures and equipment consists of furniture, computers, other office equipment, purchased software for internal use, leasehold improvements and construction in process recorded at cost. Depreciation is computed on the straight-line method over five years for furniture and fixtures, and three to five years for computer equipment and software. Leasehold improvements are amortized on a straight-line basis over the shorter of the lease term or their estimated useful lives. Improvements are capitalized while expenditures for repairs and maintenance are charged to expense as incurred. Construction in progress will not be amortized into depreciation expense until it is placed into service.

Goodwill and Intangible Assets—The Company has generated goodwill and certain intangible assets from various acquisitions. Goodwill represents the excess of consideration paid over the fair value of net assets acquired in business combinations. Under ASC 350-20, *Goodwill and Other Intangible Assets,* goodwill is evaluated for impairment using a two-step process that is performed at least annually on October 1 of each year, or whenever events or circumstances indicate that impairment may have occurred. The first step is a comparison of the fair value of an internal reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit exceeds its carrying value, goodwill of the reporting unit is not considered impaired and the second step is unnecessary. If the carrying value of the reporting unit exceeds its fair value, a second test is performed to measure the amount of impairment by comparing the carrying amount of the goodwill to a determination of the implied value of the goodwill. If the carrying amount of the goodwill is greater that the implied value, an impairment loss is recognized for the difference. The Company determined that there was no impairment of goodwill as of December 31, 2012 and 2011.

The implied value of goodwill is determined as of the test date by performing a purchase price allocation, as if the reporting unit had just been acquired, using currently estimated fair values of the individual assets and liabilities of the reporting unit, together with an estimate of the fair value of the reporting unit taken as a whole. The estimate of the fair value of the reporting unit is based upon information available regarding the Company's market capitalization, prices of similar groups of assets, or other valuation techniques including present value techniques based upon estimates of future cash flow.

The definite-lived intangible assets are recorded at cost less accumulated amortization. Amortization of acquired technology and database is computed using the straight-line method over their expected useful lives, which range from five to six years, and amortization of customer relationships and customer contracts is computed using an accelerated method which reflects the pattern in which the economic benefits derived from the related intangible assets are consumed or utilized.

Impairment of Long-Lived Assets—Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such asset may be impaired. The Company subjects long-lived assets to a test of recoverability based on undiscounted cash flows expected to be generated by such assets while utilized by the Company and cash flows expected from disposition of such assets. If the assets are impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Management determined that there was no impairment of long-lived assets as of December 31, 2012 and 2011.

Treasury Stock—Shares of the Company's common and preferred stock that are repurchased are recorded as treasury stock at cost and included as a component of stockholders' equity.

Foreign Currency Translation—The financial statements of the Company's foreign subsidiaries are translated in accordance with ASC 830-30, *Foreign Currency Matters – Translation of Financial Statements*. The reporting currency for the Company is the U.S. dollar. The functional currencies of the Company's subsidiaries in the United Kingdom and Japan are the British Pound Sterling and the Japanese Yen, respectively. Accordingly, the assets and liabilities of the Company's foreign subsidiaries are translated into U.S. dollars using the exchange rate in effect at each balance sheet date. Revenue and expense accounts of the Company's foreign subsidiaries are translated using an average rate of exchange during the period. Foreign currency translation adjustments are accumulated as a component of other comprehensive income (loss) as a separate component of stockholders' equity. Gains and losses arising from transactions denominated in foreign currencies are primarily related to intercompany accounts that have been determined to be temporary in nature and accordingly, are recorded directly to the statement of operations. Foreign currency transaction gains (losses) are included in general and administrative expenses and were $0.2 million in 2012, $(0.7) million in 2011 and $(0.6) million in 2010.

Fair Value of Financial Instruments—The carrying amounts of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate fair value because of the short maturity of these instruments. Fair values of marketable securities are based on unadjusted quoted market prices or pricing models using current market data that are observable either directly or indirectly. Amounts outstanding under long-term debt agreements are considered to be carried at their estimated fair values because they bear interest at rates which approximate market. All methods of assessing fair value result in a general approximation of value, and such value may never actually be realized. The fair value of contingent consideration is determined based on the likelihood of contingent earn-out payments.

Concentration of Credit Risk—Financial instruments which potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, marketable securities and accounts receivable. The Company has policies that limit the amount of credit exposure to any one issuer. The Company performs ongoing credit evaluations of its customers and maintains an allowance for potential losses, but does not require collateral or other security to support customers' receivables. The Company's credit risk is further mitigated because its customer base is diversified both geographically and by industry sector.

Cash and cash equivalents and restricted cash are deposited with major financial institutions and, at times, such balances with any one financial institution may be in excess of FDIC-insured limits. As of December 31, 2012, $32.7 million in cash and cash equivalents and restricted cash were deposited in excess of FDIC-insured limits.

In 2012 and 2011 there were no significant customers that exceeded 10% of the Company's total revenues. As of December 31, 2012 and 2011 and for each of the three years in the period ended December 31, 2012, total revenues recognized and total accounts receivable balance due related to customers that were significant in 2010 are as follows:

	Percentage of Revenues			Percentage of Accounts Receivable	
	For the year ended December 31,			As of December 31,	
	2012	2011	2010	2012	2011
Customer A	8%	6%	11%	14%	10%
Customer B	7%	8%	11%	1%	1%
Customer C	4%	7%	10%	3%	2%
Total (Customers A to C)	19%	21%	32%	18%	13%

Indemnifications—The Company indemnifies its customers against claims that software or documentation purchased from or made available by the Company infringes upon a copyright, patent or the proprietary rights of others. Such indemnification provisions are disclosed in accordance with ASC 460-10-50-4, *Disclosure About a Guarantor's Obligation,* as further interpreted by ASC 460-10-55-31 – 34. In the event of a claim, the Company agrees to obtain the rights for continued use of the software for the customer, to replace or modify the software or documentation to avoid such claim or to provide a credit to the customer for the unused portion of the software license. A liability may be recognized under ASC 450-20, *Loss Contingencies*, if information prior to the issuance of the consolidated financial statements indicates that it is probable that a liability has been incurred at the balance sheet date and the amount of the loss can be reasonably estimated.

Segment Information—As defined by ASC 280, *Segment Reporting*, the Company operates as a single segment, as the chief operating decision maker makes operating decisions and assesses performance based on one single operating unit. The Company recorded revenues in the following geographic areas in 2012, 2011 and 2010 (in thousands):

	2012	2011	2010
Revenues:			
United States of America	$ 147,165	$ 118,024	$ 106,702
Japan	28,482	25,208	18,393
United Kingdom	12,029	11,588	13,987
Switzerland	11,598	10,522	8,900
Other	19,073	19,117	18,444
Total	$ 218,347	$ 184,459	$ 166,426

Revenues by geographic area are presented based upon the country in which revenues were generated. No individual country other than the United States, Japan, the United Kingdom, and Switzerland represented 5% or more of net revenues for any of the periods presented.

The following table summarizes long-term assets by geographic area as of December 31, 2012, 2011 and 2010 (in thousands):

	2012	2011	2010
Long-term assets:			
United States of America	$ 32,102	$ 33,697	$ 23,580
United Kingdom	9,454	7,906	809
Japan	374	566	675
Total	$ 41,930	$ 42,169	$ 25,064

Recently Issued Accounting Pronouncements—In May 2011, the FASB issued ASU No. 2011-04, *Fair Value Measurement: Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRS.* The amendments in this ASU generally represent clarification of ASC 820-10, *Fair Value Measurements and Disclosures,* but also include instances where a particular principle or requirement for measuring fair value or for disclosing information about fair value measurements has changed. This ASU is the result of joint efforts by the FASB and International Accounting Standards Board to develop a single, converged fair value framework and guidance with respect to how to measure fair value and what disclosures to provide about fair value measurements. ASU No. 2011-04 is effective for interim and annual periods beginning after December 15, 2011. The Company adopted ASU No. 2011-04 on January 1, 2012, and the adoption did not have a material impact on its consolidated financial statements.

In June 2011, the FASB issued ASU No. 2011-05, *Presentation of Comprehensive Income,* which removes the presentation options contained in ASC 220, *Comprehensive Income,* and requires entities to report components of comprehensive income in either a continuous statement of comprehensive income or two separate but consecutive statements. Under the two-statement approach, the first statement would include components of net income, which is consistent with the format of statement of operations used today, and the second statement would include components of other comprehensive income. In December 2011, the FASB issued ASU No. 2011-12, *Deferral of the Effective Date for Amendments to Presentation of Reclassification of Items Out of Accumulated Other Comprehensive Income in ASU 2011-05,* to defer indefinitely the effective date of the specific requirement to present items that are reclassified out of accumulated other comprehensive income to net income alongside their respective components of net income and other comprehensive income. All other provisions of ASU No. 2011-05 are effective for interim and annual periods beginning after December 15, 2011, and must be applied retrospectively for all periods presented in the financial statements. The Company adopted the applicable provisions of ASU No. 2011-05 on January 1, 2012. The adoption did not have a material impact on its consolidated financial statements other than merely a change in their presentation. In February 2013, the FASB issued ASU No. 2013-02, *Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*, which supersedes and replaces the presentation requirements for reclassifications out of accumulated other comprehensive income in ASU No. 2011-05 and ASU No. 2011-12. ASU No. 2013-02 is effective for reporting periods beginning after December 15, 2012. The Company will adopt ASU No. 2013-02 on January 1, 2013 and the adoption is not expected to have a material impact on its consolidated financial statements

In September 2011, the FASB issued ASU No. 2011-08, *Testing Goodwill for Impairment,* which simplifies how entities test goodwill for impairment. ASU No. 2011-08 permits an entity to assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test. ASU No. 2011-08 is effective for interim and financial periods beginning after December 15, 2011, with early adoption permitted. The Company adopted ASU No. 2011-08 on January 1, 2012 and the adoption did not have a material impact on its consolidated financial statements.

3. STOCKHOLDERS' EQUITY

Common Stock—Common stockholders are entitled to one vote for each share of common stock held. Common stockholders may receive dividends if and when the Board of Directors determines at its sole discretion.

Treasury Stock—From time to time, the Company grants nonvested restricted stock awards to its employees pursuant to the terms of the 2009 Long-Term Incentive Plan (the "2009 Plan"). Under the provisions of the 2009 Plan, the plan participants are allowed to cover their income tax withholding obligation through net shares upon the vesting of their restricted shares. On the date of vesting of restricted shares, the Company determines the number of vested shares to be withheld based on their fair value at closing price of the Company's common stock on the vesting date, in order to equal the amount of the plan participant's income tax withholding obligation. Those withheld shares are then held in the Company's treasury stock at cost for future reissuance. In 2012 and 2011, the Company withheld 121,286 shares at an average price of $28.36 and 76,614 shares at an average price of $22.34, respectively, in connection with the vesting of its restricted stock awards.

4. MARKETABLE SECURITIES

The Company manages its cash equivalents and marketable securities as a single investment portfolio that is intended to be available to meet the Company's current cash requirements. Cash equivalents consist primarily of investments in money market funds. Marketable securities, which the Company classifies as available-for-sale securities, primarily consist of high quality commercial paper, corporate bonds, U.S. government debt obligations, and bank certificates of deposit. Marketable securities with remaining effective maturities of twelve months or less from the balance sheet date are classified as short-term; otherwise, they are classified as long-term on the consolidated balance sheet.

The following table provides the Company's marketable securities by security type as of December 31, 2012 and 2011 (in thousands):

	As of December 31, 2012			
	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Commercial paper and corporate bonds	$ 63,682	$ 4	$ (11)	$ 63,675
U.S. Treasury and U.S. government agency debt securities	26,186	10	—	26,196
Bank certificates of deposit	—	—	—	—
Total	$ 89,868	$ 14	$ (11)	$ 89,871

	As of December 31, 2011			
	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Commercial paper and corporate bonds	$ 44,168	$ 1	$ (29)	$ 44,140
U.S. Treasury and U.S. government agency debt securities	13,122	5	—	13,127
Bank certificates of deposit	5,200	—	(4)	5,196
Total	$ 62,490	$ 6	$ (33)	$ 62,463

Contractual maturities of the Company's marketable securities as of December 31, 2012 and 2011 are summarized as follows (in thousands):

	As of December 31, 2012		As of December 31, 2011	
	Cost	Estimated Fair Value	Cost	Estimated Fair Value
Due in one year or less	$ 89,868	$ 89,871	$ 62,490	$ 62,463

The following table provides the fair market value and the gross unrealized losses of the Company's marketable securities with unrealized losses that are not deemed to be other-than-temporarily impaired, aggregated by security type as of December 31, 2012 and 2011 (in thousands):

	In Loss Position for Less than 12 Months			
	As of December 31, 2012		As of December 31, 2011	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Commercial paper and corporate bonds	$ 42,167	$ (11)	$ 24,868	$ (29)
Bank certificates of deposit	—	—	5,196	(4)
Total	$ 42,167	$ (11)	$ 30,064	$ (33)

None of the Company's marketable securities has been in a continuous unrealized loss position for more than twelve months as of December 31, 2012 and 2011.

At December 31, 2012, the Company had an insignificant amount of gross unrealized losses primarily due to a decrease in the fair value of certain corporate bonds. The Company regularly reviews its investment portfolio to identify and evaluate investments that have indications of possible impairment. Factors considered in determining whether a loss is temporary include:

- the length of time and extent to which fair value has been lower than the cost basis;
- the financial condition, credit quality and near-term prospects of the investee; and
- whether it is more likely than not that the Company will be required to sell the security prior to recovery.

As the Company has the ability and intent to hold these investments until a recovery of fair value, which may be maturity, the Company has determined that the gross unrealized losses on such investments at December 31, 2012 are temporary in nature. Accordingly, the Company did not consider that its investments in marketable securities were other-than-temporarily impaired as of December 31, 2012.

During 2012, 2011 and 2010, the Company recorded an insignificant amount of net realized gains or losses from the sale of marketable securities.

5. FAIR VALUE

ASC 820-10, *Fair Value Measurements and Disclosures*, establishes a framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value and enhances disclosure requirements for fair value measurements. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under ASC 820-10 are described as follows:

Level 1 - Unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

Level 2 - Other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, include:

- quoted prices for similar assets or liabilities in active markets;
- quoted prices for identical or similar assets or liabilities in markets that are not active;
- inputs other than quoted prices that are observable for the asset or liability;
- inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- If the asset or liability has a specified (contractual) term, the Level 2 inputs must be observable for substantially the full term of the asset or liability.

Level 3 - Unobservable inputs to the valuation methodology and significant to the fair value measurement for the asset or liability.

Financial assets (excluding cash balances) measured at fair value on a recurring basis as of December 31, 2012 and 2011 are summarized as follows (in thousands):

	As of December 31, 2012				As of December 31, 2011			
	Fair Value Measurement Using				Fair Value Measurement Using			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Money market funds	$ 17,815	$ —	$ —	$ 17,815	$ 28,637	$ —	$ —	$ 28,637
Corporate bonds	—	3,313	—	3,313	—	—	—	—
Total cash equivalents	17,815	3,313	—	21,128	28,637	—	—	28,637
Commercial paper and corporate bonds	—	63,675	—	63,675	—	44,140	—	44,140
U.S. Treasury and U.S. government agency debt securities	—	26,196	—	26,196	5,510	7,617	—	13,127
Bank certificates of deposit	—	—	—	—	—	5,196	—	5,196
Total marketable securities	—	89,871	—	89,871	5,510	56,953	—	62,463
Total financial assets	$ 17,815	$ 93,184	$ —	$ 110,999	$ 34,147	$ 56,953	$ —	$ 91,100
Liabilities:								
Contingent consideration	$ —	$ —	$ 801	$ 801	$ —	$ —	$ 1,522	$ 1,522

The Company's financial assets that are measured at fair value on a recurring basis are generally classified within Level 1 or Level 2 of the fair value hierarchy. Investments in money market funds and certain U.S. Treasury debt securities have been classified as Level 1 since these securities are valued based upon $1.00 net asset value per share or unadjusted quoted prices in active markets. Investments in commercial paper, corporate bonds, U.S. government agency debt securities, and bank certificates of deposit have been classified as Level 2 since these securities are valued based on quoted prices in less active markets or significant inputs which are directly or indirectly observable. The valuation techniques used to measure the fair values of corporate bonds, U.S. government agency debt securities and bank certificates of deposit were derived from the inputs of market prices from multiple sources at each reporting period. The fair value was then determined based on a consensus price or a weighted average price for each security. For the remaining financial assets classified as Level 2, substantially all of the securities had a short maturity within one year with high credit ratings. Therefore, the valuation techniques used to measure the fair values were primarily derived from accretion of purchase price to its face value over the term of maturity or quoted market prices for similar instruments if available. During 2012 and 2011, there were no transfers of financial assets between Level 1 and Level 2.

The contingent consideration associated with acquisition-related earn-out payments (as described in Note 6, "Acquisition") is classified as Level 3. The fair value of the contingent consideration was estimated by applying the income approach. That measure is based on significant inputs that are not observable in the market. The significant inputs in the Level 3 measurement not supported by market activity included the Company's probability assessments of expected future cash flows associated with its related acquisition during the earn-out payments measurement period, appropriately discounted considering the uncertainties associated with the obligation, and calculated in accordance with the terms of the purchase agreement. Significant assumptions include a discount rate of 11%, which is derived from the Company's estimated weighted average cost of capital of 16% net of a 5% risk adjustment. Changes in the Company's expectations related to the achievement of the performance-based criteria specified in the purchase agreement may affect these assumptions, resulting in an increase or decrease in the fair value of the contingent consideration liability.

The following table provides a summary of changes in fair value of the Company's Level 3 financial liabilities for the two years ended December 31, 2012 (in thousands):

	Contingent Consideration
Balance as of January 1, 2011	$ —
Contingent consideration - acquisition	1,819
Due to sellers (included in accrued expenses and other)	(520)
Change in fair value	223
Balance as of December 31, 2011	1,522
Due to sellers (included in accrued expenses and other)	(1,040)
Change in fair value	319
Balance as of December 31, 2012	$ 801

For the years ended December 31, 2012 and 2011, the Company recorded adjustments of $0.3 million and $0.2 million, respectively, to the contingent consideration obligation as a result of the recurring measurement of its fair value at each reporting period. The fair value adjustments were recorded in general and administrative expenses in the Company's consolidated financial statements.

The carrying amounts of all other current financial assets and current financial liabilities reflected in the consolidated balance sheets approximate fair value due to their short-term nature. The Company does not have non-financial assets or liabilities that have been measured at fair value on a nonrecurring basis during the year ended December 31, 2012.

6. ACQUISITION

On July 1, 2011, the Company acquired Clinical Force Limited ("Clinical Force"), a UK-based provider of cloud-based clinical trial management systems ("CTMS"). With this acquisition, the Company expanded its service offerings to include a clinical trial management solution, which enables customers to reduce the financial and operational management burden of clinical trials, streamline clinical processes, and increase visibility to timely information that enhances governance and decision making. In exchange for all outstanding shares of Clinical Force, the Company paid consideration consisting of $5.2 million cash at closing, plus additional performance-based earn-out payments of up to $2.6 million, which had a fair value of approximately $1.8 million as of the acquisition date. The earn-out payments are contingent upon the achievement of future billing targets for the CTMS application, calculated over three measuring periods beginning at December 31, 2011 and continuing for each of the next two calendar years thereafter. For the measurement periods ended December 31, 2012 and 2011, the sellers earned payments of $1.0 million and $0.5 million, respectively, based upon the achievement of the maximum billing targets for those periods.

In allocating the purchase price based on estimated fair values, the Company recorded $5.6 million of goodwill, $2.1 million of identifiable intangible assets, and $0.7 million of net liabilities. Clinical Force's operations have been included in the Company's consolidated financial statements since the date of acquisition on July 1, 2011.

7. GOODWILL AND INTANGIBLE ASSETS

The changes in the carrying amount of goodwill for the two years ended December 31, 2012 are as follows (in thousands).

Balance as of January 1, 2011	$ 9,799
Additions related to acquisition	5,557
Foreign currency translation adjustments	(192)
Balance as of December 31, 2011	$ 15,164
Foreign currency translation adjustments	218
Balance as of December 31, 2012	$ 15,382

Intangible assets are summarized as follows (in thousands):

	As of December 31, 2012			As of December 31, 2011		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Acquired technology	$ 4,094	$ (2,935)	$ 1,159	$ 4,021	$ (2,023)	$ 1,998
Database	1,900	(1,821)	79	1,900	(1,441)	459
Customer relationships	2,064	(1,594)	470	2,044	(1,076)	968
Total	$ 8,058	$ (6,350)	$ 1,708	$ 7,965	$ (4,540)	$ 3,425

Annual amortization for the next five years is expected to be as follows (in thousands):

Years ending December 31,	
2013	$ 822
2014	540
2015	281
2016	46
2017	19

8. FURNITURE, FIXTURES AND EQUIPMENT

Furniture, fixtures and equipment consist of the following (in thousands):

	As of December 31,	
	2012	2011
Computer equipment and purchased software	$ 34,262	$ 34,597
Leasehold improvements	4,283	4,037
Furniture and fixtures	1,356	1,274
Construction in progress	2,205	—
Total furniture, fixtures and equipment	42,106	39,908
Less: accumulated depreciation and amortization	(31,632)	(30,083)
Furniture, fixtures and equipment, net	$ 10,474	$ 9,825

Included in furniture, fixtures and equipment, net as of December 31, 2012 and 2011 are computer equipment and purchased software acquired under capital leases of approximately $0.1 million and $0.2 million, respectively, net of related accumulated depreciation of approximately $10.5 million and $13.7 million, respectively. Total depreciation expense was $6.1 million, $6.2 million, and $7.7 million for the years ended December 31, 2012, 2011, and 2010, respectively. These amounts include depreciation of assets acquired under capital leases of $0.1 million, $0.7 million, and $2.4 million in 2012, 2011, and 2010, respectively. Assets included in construction in progress were primarily related to costs capitalized in connection with the Company's build-out of its two newly leased offices in the United States and United Kingdom. As a result, all of the capitalized costs associated with construction in progress will not be amortized into depreciation expense until the offices are occupied.

9. DEBT

In September 2008, the Company entered into a new senior secured credit facility ("Credit Facility") with an unrelated lender that included a $15.0 million term loan ("Term Loan"), which was fully drawn at closing, and a $10.0 million revolving credit line ("Revolving Credit Line"), all of which was undrawn at inception. The Credit Facility matures in September 2013 and was secured effectively by all of the assets of the Company. Proceeds of the Term Loan were used to repay all outstanding term notes of $11.0 million, and the remaining $4.0 million was used for general corporate purposes. In July 2009, the Company used a portion of its net proceeds from the initial public offering ("IPO") to prepay the entire outstanding indebtedness of the Term Loan. The total payoff amount of $14.7 million included the outstanding principal balance of $14.3 million as well as accrued interest and termination fees of $0.4 million.

In June 2010, the Company entered into the second loan modification ("Second Modification") agreement with the lender. Pursuant to the terms of the Second Modification, the Credit Facility was amended to:

- reduce fees payable by the Company on its $10.0 million Revolving Credit Line under the Credit Facility by (a) eliminating the 2.25% margin on prime rate borrowings and (b) decreasing the undrawn revolving credit line fee from 0.5% of the average undrawn balance to an annual rate of 0.375% of the average undrawn balance;
- provide the Company with an option to borrow under the Revolving Credit Line at an interest rate based on the U.S. London Interbank Offer Rate ("LIBOR") plus a margin of 2.5%;
- simplify the Company's financial reporting procedures by eliminating monthly financial reporting obligations and amending certain reporting procedures; and
- replace the Company's prior financial covenants with a simplified adjusted quick ratio covenant of 2.00:1.00 as defined in the Second Modification and provide that in the event that the Company has less than $10.0 million of cash or cash equivalents in accounts with the lender in excess of the Company's borrowings under the Credit Facility, the Company would also be required to satisfy a minimum trailing-two-quarter cash flow covenant, commencing at $3 million for the period ended June 30, 2010 and increasing each quarter by $1 million up to $6 million for the quarter ending March 31, 2011 and thereafter.

Since the Second Modification did not amend the total amount of the $10.0 million Revolving Credit Line nor change the remaining term, the Company concluded that the borrowing capacity remained unchanged after the amendment. As a result, the new debt issuance costs incurred from the Second Modification were deferred and amortized together with the existing unamortized debt issuance costs over the remaining term of the Credit Facility in accordance with ASC 470-50-40-21. As of December 31, 2012, the remaining unamortized balance was immaterial.

Except for the $3.6 million reduction of the available amount primarily due to standby letters of credit issued in connection with the Company's office leases executed under the Credit Facility, as amended, the Revolving Credit Line remains undrawn. As of December 31, 2012, approximately $6.4 million of the Revolving Credit Line under the Credit Facility, as amended, was still available for future borrowings.

Due to the lock-box arrangement and the subjective acceleration clause contained in the agreement of Credit Facility, as amended, borrowings, if any, under the Revolving Credit Line will be classified as a current liability in accordance with ASC 470-10-45-5, *Classification of Revolving Credit Agreements Subject to Lock-Box Arrangement and Subjective Acceleration Clauses*.

For the three years ended December 31, 2012, the Company's interest expense, primarily related to the unused revolving credit line fee, was insignificant.

10. CAPITAL LEASES

The Company leases certain equipment under noncancelable capital lease agreements which provide for total future minimum annual lease payments as follows (in thousands):

Years ending December 31,		
2013	$	59
2014		58
2015		44
Total minimum lease payments		161
Less amount representing interest		(6)
Present value of net minimum capital lease payments		155
Less current portion		(55)
Capital lease obligations, excluding current portion	$	100

11. STOCK-BASED COMPENSATION

In 2000, the Company adopted the 2000 Stock Option Plan (the "2000 Plan") under which 0.5 million shares of the Company's common stock were reserved for issuance to employees, directors, consultants and advisors. Since such date, the Company had amended the 2000 Plan to provide for approximately 3.9 million authorized shares. Options granted under the 2000 Plan may be incentive stock options, nonqualified stock options or nonvested restricted stock awards. Incentive stock options may be granted only to employees. The majority of the options are vested 25% one year from the grant date and 75% ratably over the next three years and expire after ten years. Stock options were issued at the current estimated market price on the date of the grant. The Company does not intend to grant any additional stock options under the 2000 Plan.

In May 2009, the Company adopted the 2009 Employee Stock Purchase Plan (the "ESPP") which became effective upon the completion of IPO in June 2009. A total of 0.5 million shares of common stock were reserved for issuance to eligible employees as defined under the ESPP. Under the ESPP, eligible employees were allowed to purchase shares of the Company's common stock at a 5% discount from the share price at the end of the offering period. The ESPP qualifies for favorable tax treatment under Section 423 of the Internal Revenue Code and meets the requirements of non-compensatory plan in accordance with ASC 718-50-25, *Employee Share Purchase Plans*. The first enrollment of the ESPP did not begin until June 2010 which was associated with the offering period of July through December 2010. There were a total of 7,000 shares of the Company's common stock issued under the ESPP in 2010. Upon completion of the last offering period in 2010, the Company decided to discontinue the ESPP effective January 1, 2011.

Also in May 2009, the Company adopted the 2009 Plan which became effective upon the completion of the IPO in June 2009. The 2009 Plan is a comprehensive incentive compensation plan under which the Company can grant equity-based and other incentive awards to employees, directors, consultants and advisors. A total of 2.5 million shares of common stock was initially reserved for issuance under the 2009 Plan, which may be in the form of stock options, nonvested restricted stock awards and other forms of stock-based incentives, including restricted stock units with performance-based vesting ("PBRSUs"), stock appreciation rights and deferred stock rights. Stock option awards are issued with an exercise price equal to the current market price on the date of the grant and vest monthly over four years. During the restriction period, nonvested restricted stock awards are not eligible for disposition but entitle the holder to all rights of a holder of common stock, including dividends and voting rights. Nonvested restricted stock awards and their associated dividends are subject to forfeiture under certain circumstances. In May 2012, the Company amended and restated the 2009 Plan to increase the number of shares of common stock that the Company may issue under the 2009 Plan by 1.5 million shares to a total of 4.0 million shares.

The Company accounts for the stock-based compensation in accordance with ASC 718. For the three years ended December 31, 2012, the components of stock-based compensation expense were summarized in the following table (in thousands):

	2012	2011	2010
Stock options	$ 4,043	$ 4,238	$ 4,128
Nonvested restricted stock awards	6,871	4,582	2,366
Total stock-based compensation	$ 10,914	$ 8,820	$ 6,494

The fair value of each stock option grant is estimated on the date of grant using the Black-Scholes pricing model with the following weighted-average assumptions:

	2012	2011	2010
Expected volatility	46%	50%	60%
Expected life	6 years	6 years	6 years
Risk-free interest rate	0.96%	1.76%	2.47%
Dividend yield	—	—	—

The following table summarizes the activity under the stock option plans as of December 31, 2012, and changes during the year then ended (in thousands, except per share data):

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Outstanding at January 1, 2012	2,355	$ 13.70		
Granted	452	28.96		
Exercised	(945)	9.87		
Forfeited	(64)	18.39		
Expired	(9)	17.48		
Outstanding at December 31, 2012	1,789	$ 19.39	7.41	$ 35,407
Exercisable at December 31, 2012	986	$ 15.71	6.32	$ 23,145
Vested and expected to vest at December 31, 2012	1,735	$ 19.20	7.36	$ 34,680

The weighted-average grant-date fair value of stock options granted during 2012, 2011 and 2010 was $12.87, $10.38 and $8.75, respectively. The total intrinsic value of stock options exercised during 2012, 2011 and 2010 was $20.0 million, $6.2 million and $10.2 million, respectively.

The following table summarizes the status of the Company's nonvested restricted stock awards as of December 31, 2012, and changes during the year then ended (in thousands, except per share data):

	Number of Shares	Weighted-Average Grant-Date Fair Value
Nonvested at January 1, 2012	961	$ 19.02
Granted	407	27.98
Vested	(315)	18.08
Forfeited	(80)	19.03
Nonvested at December 31, 2012	973	$ 23.08

As of December 31, 2012, there was a total of $27.1 million of unrecognized compensation cost related to all non-vested stock-based compensation awards granted, as recorded in accordance with ASC 718. This cost is expected to be recognized over a weighted-average remaining period of 2.83 years for stock options and 2.70 years for nonvested restricted stock awards. The total fair value of shares vested during 2012, 2011 and 2010 was $12.8 million, $9.1 million and $5.4 million, respectively.

In February 2013, the Company granted approximately 0.9 million shares of equity awards under the 2009 Plan, as amended. Approximately 0.5 million of these shares represent a target amount of PBRSUs, the vesting of which is contingent upon the achievement of certain future performance goals specified at the time of grant.

12. EARNINGS PER SHARE

The Company follows ASC 260, *Earnings Per Share*, in calculating earnings per share. Basic earnings per share is calculated by dividing net income available to common stockholders by the weighted-average number of shares outstanding during the period. The holders of unvested restricted stock awards do not have nonforfeitable rights to dividends or dividend equivalents and therefore such vested awards do not qualify as participating securities and are excluded from the basic earnings per share calculation. Diluted earnings per share includes the determinants of basic net income per share and, in addition, gives effect to the potential dilution that would occur if securities or other contracts to issue common stock are exercised, vested or converted into common stock unless they are anti-dilutive.

A reconciliation of the numerator and denominator of basic earnings per share and diluted earnings per share for the three years ended December 31, 2012 is shown in the following table (in thousands, except per share data):

	2012	2011	2010
Numerator			
Numerator for basic earnings per share:			
Net income	$ 18,020	$ 39,398	$ 22,817
Denominator			
Denominator for basic earnings per share:			
Weighted average common shares outstanding	24,546	23,646	22,958
Denominator for diluted earnings per share:			
Dilutive potential common shares:			
Stock options	645	760	953
Nonvested restricted stock awards	278	251	151
Weighted average common shares outstanding with assumed conversion	25,469	24,657	24,062
Basic earnings per share	$ 0.73	$ 1.67	$ 0.99
Diluted earnings per share	$ 0.71	$ 1.60	$ 0.95
Total number of anti-dilutive shares of stock options and nonvested stock excluded from calculation of diluted earnings per share	358	486	1,130

13. INCOME TAXES

The components of income tax expense (benefit) for the three years ended December 31, 2012 are as follows (in thousands):

	2012	2011	2010
Current expense:			
Federal and state	$ 5,827	$ 4,509	$ 237
Foreign	1,099	751	799
Current expense	6,926	5,260	1,036
Deferred expense (benefit):			
Federal and state	3,505	3,355	8,143
Foreign	(178)	(124)	24
Valuation allowance	(204)	(24,924)	(8,298)
Deferred expense (benefit)	3,123	(21,693)	(131)
Total income tax expense (benefit)	$ 10,049	$ (16,433)	$ 905

A reconciliation of income tax expense and the amount computed by applying the statutory federal income tax rate to the income before provision for income taxes is as follows (in thousands):

	2012	2011	2010
Tax computed at federal statutory rate	$ 9,824	$ 8,038	$ 8,303
Increase (decrease) in income taxes resulting from:			
Valuation allowance	(204)	(24,558)	(8,493)
U.S. R&D tax credit	—	(2,516)	—
Recognition of uncertain tax position	461	342	—
Stock-based compensation	(40)	353	198
Undistributed earnings from foreign subsidiaries	1,275	665	623
State tax expense, net of federal benefit	747	1,026	324
Prior year amended federal tax return	—	—	(263)
Non-deductible bonuses	102	184	201
Non-deductible items	67	(6)	14
Foreign tax rate differential	(205)	39	(2)
Domestic production activities deduction	(232)	—	—
Foreign tax credit	(1,051)	—	—
Other	(695)	—	—
Total income tax (benefit) expense	$ 10,049	$ (16,433)	$ 905

As of December 31, 2012 and 2011, the components of deferred tax assets (liabilities) are as follows (in thousands):

	As of December 31,	
	2012	2011
Assets:		
Net operating loss carryforwards	$ 5,769	$ 5,804
Deferred revenue	7,517	10,603
Depreciable and amortizable assets	6,407	5,502
U.S. and state R&D tax credits	281	1,040
Foreign tax credit	2,758	2,962
Stock based compensation	3,651	4,056
Other	2,033	2,396
Gross deferred tax assets	28,416	32,363
Liabilities:		
Depreciable and amortizable assets	(6,945)	(6,803)
Management fee	(310)	(358)
Foreign exchange translation	(153)	(144)
Other	(375)	(292)
Gross deferred tax liabilities	(7,783)	(7,597)
Less: valuation allowance	(2,758)	(2,962)
Net deferred tax assets	$ 17,875	$ 21,804
Net current deferred tax assets	$ 7,465	$ 10,896
Net long-term deferred tax assets	11,055	11,581
Net current deferred tax liabilities (included in accrued expenses and other)	(21)	(44)
Net long-term deferred tax liabilities	(624)	(629)
Net deferred tax assets	$ 17,875	$ 21,804

Income before provision for income taxes by jurisdiction is as follows (in thousands):

	2012	2011	2010
U.S. income	$ 25,064	$ 21,731	$ 21,966
Non-U.S. income	3,005	1,234	1,756
Total income before provision for income taxes	$ 28,069	$ 22,965	$ 23,722

As of December 31, 2012 and 2011, the Company had approximately $12.0 million and $13.2 million, respectively, of federal net operating loss carryforwards ("NOLs") available to offset future taxable income expiring from 2019 through 2028. The total amount of state and local NOLs in aggregate was $12.2 million and $24.0 million as of December 31, 2012 and 2011, respectively, expiring from 2019 through 2028. Certain NOLs were obtained through the acquisition of Fast Track in 2008, which are subject to limitations under Section 382 of the Internal Revenue Code.

At December 31, 2012, the Company had approximately $4.2 million of tax credits which were not included in the recorded deferred tax assets. The use of such credits was deferred by the excess tax deductions related to equity compensation. The tax benefit of these credits will be recognized through additional paid-in capital at such time as the credits are used to reduce income taxes payable.

As of December 31, 2012 and 2011, the Company maintained a valuation allowance of $2.8 million and $3.0 million, respectively, against its deferred tax asset related to foreign tax credits, as its future utilization remains uncertain. The net decrease in the valuation allowance of $0.2 million in 2012 was due primarily to the utilization of foreign tax credit carryforwards. In the fourth quarter of 2011, the Company determined that it was more likely than not that it would realize the benefit from the majority of its deferred tax assets. As a result, the Company recorded a $24.9 million reduction in valuation allowance, including a $19.0 million one-time tax benefit from the reversal of valuation allowance on the majority of the Company's net deferred tax assets.

The Company recorded its unrecognized tax benefits in accrued expenses and other on the accompanying consolidated balance sheet. The aggregate changes in the balance of the Company's gross unrecognized tax benefits for the three years ended December 31, 2012 are as follows (in thousands):

	2012	2011	2010
Gross unrecognized tax benefits as of beginning of period	$ 2,109	$ —	$ 151
Increases based on tax positions related to the current year	229	521	—
Increases related to tax positions from prior fiscal years	608	1,588	—
Settlements with tax authority	—	—	(151)
Total gross unrecognized tax benefits as of end of period	$ 2,946	$ 2,109	$ —

As of December 31, 2012, there was $2.9 million of unrecognized benefits that would affect the Company's effective tax rate, if recognized.

The Company recognizes accrued interest and penalties, if any, related to uncertain tax positions through income tax expense. Recognized interest and penalties were $0.2 million for the year ended December 31, 2012 and were insignificant for the years ended December 31, 2011 and 2010. The Company believes that its income tax positions and deductions will be sustained on audit and does not anticipate any adjustments that will result in a material change to its financial position during the next twelve months. The Company's federal income tax returns for the 2002 through 2011 tax years remain open to examination by the IRS in their entirety, except for its 2007 tax return, the examination of which was completed by the IRS in 2010 with no adjustments to the tax return proposed. In addition, the Company's state income tax returns for the 2003 through 2011 tax years also remain open to examination by state taxing authorities. The Company's 2010 federal income tax return is currently under examination by the IRS and it has yet to notify the Company if there are any issues related to this examination.

14. COMMITMENTS AND CONTINGENCIES

Operating Leases—The Company leases certain equipment and office space under noncancelable operating lease agreements which provide for total future minimum annual lease payments as follows:

Years ending December 31,		
2013	$	4,257
2014		7,628
2015		7,465
2016		6,558
2017		6,524
Thereafter		42,436
Total minimum lease payments	$	74,868

Rent expense was approximately $4.8 million in 2012, $4.1 million in 2011 and $3.9 million in 2010. The Company had several outstanding standby letters of credit issued in connection with office leases in the amount of $3.9 million and $0.4 million as of December 31, 2012 and 2011, respectively. These standby letters of credit were fully collateralized with restricted cash and Revolving Credit Line as of December 31, 2012 and 2011.

401(k) Plan—The Company has a pre-tax savings and profit sharing plan (the "401(k) Plan") under Section 401(k) of the Internal Revenue Code for substantially all employees. Under the 401(k) Plan, eligible employees are able to contribute up to 15% of their compensation not to exceed the maximum IRS annual deferral amount. The Company provides a 50% match of the first 4% of eligible compensation contributed each period by the employees. The maximum match by the Company is 2% of such eligible compensation. The Company incurred expense of $1.6 million, $0.9 million and $0.8 million relating to matching contributions in 2012, 2011 and 2010, respectively.

Legal Matters—The Company is subject to legal proceedings and claims that arise in the ordinary course of business. From time to time, third parties have asserted and may in the future assert intellectual property rights to technologies that are important to the Company's business and have demanded and may in the future demand that the Company license their technology. The Company records an estimated liability for these matters when an adverse outcome is considered to be probable and can be reasonably estimated. Although the outcome of the litigation cannot be predicted with certainty and some lawsuits, claims, or proceedings may be disposed of unfavorably to the Company, which could materially and adversely affect its financial condition or results of operations, the Company does not believe that it is currently a party to any material legal proceedings.

In 2006, it was claimed that certain applications offered to the Company's customers potentially infringed on intellectual property rights held by Datasci, LLC ("Datasci"). As a result of negotiations with Datasci, the Company entered into a license and settlement agreement in June 2007, pursuant to which the Company licensed the intellectual property held by Datasci for use in its future sales to customers and settled all past infringement claims. The Company paid a settlement amount of $2.2 million to Datasci in 2007. In June 2009, Datasci initiated a lawsuit against the Company claiming breach of contract. The complaint included allegations that the Company had failed to pay unspecified royalties relating to sales of the Company's products. The Company believed that the allegations in this lawsuit were without merit. The Company filed an answer in July 2009, denying all material allegations and asserting numerous affirmative defenses. The Company also asserted counterclaims for a declaratory judgment that no royalties were owed with respect to sales of the Company's products, as well as a counterclaim for Datasci's breach of the license and settlement agreement.

On December 13, 2011, as a result of further negotiations, the Company entered into a second settlement agreement with Datasci. The settlement terminated and rescinded the prior license and settlement agreement, provided for mutual release and dismissal of all actions between the parties, and provided the Company with a non-exclusive, fully paid perpetual license to utilize the patent at issue. Under the settlement, the Company agreed to make a one-time lump sum payment to Datasci in the amount of $6.3 million to settle the claim. Prior to negotiation of the settlement agreement, the probable outcome of this litigation had remained uncertain, as the case was in the early stages and a trial date had not been set. The Company had consequently been unable to reasonably estimate the amount or range of potential loss, if any, associated with this litigation. As a result, in accordance with ASC 450, *Contingencies,* the Company did not record a liability until the date of the settlement, when the amount of loss was determined. The related payment was made on December 16, 2011.

Pursuant to ASC 350, *Goodwill and Other Intangible Assets*, the Company reviewed the attributes of the patent license obtained and determined that this license had neither a fair value nor a useful life. As such, the entire settlement amount of $6.3 million was included in the Company's consolidated results of operations for the year ended December 31, 2011.

On March 4, 2011, DataTrak International, Inc. ("DataTrak") filed a complaint for alleged patent infringement against the Company in DataTrak International v. Medidata Solutions, C.A. No. 1:11-cv-00458 in the U.S. District Court for the Northern District of Ohio. The complaint asserts infringement of U.S. Patent No. 7,464,087 (the "'087 Patent"), which claims a method and system for unifying data from a variety of sources. The complaint asserts that the Company infringes upon the patent owned without providing any details concerning the alleged infringement, and it seeks unspecified damages and injunctive relief. On October 28, 2011, the Company filed an application for ex parte reexamination of the '087 Patent with the U.S. Patent and Trademark Office (the "PTO"). On December 16, 2011, the PTO issued a non-final rejection of the validity of all claims of the '087 Patent. On the same date, the district court granted the Company's motion to stay the case pending reexamination of the patent-in-suit. On April 6, 2012, the PTO issued its final office action rejecting all asserted claims of the '087 Patent. In July 2012, DataTrak filed a notice of appeal to the Board of Patent Appeals and Interferences. If this appeal is not successful and the decision is ultimately upheld, it will result in the elimination of the litigation. The Company believes that it has valid defenses to the lawsuit and intends to defend itself vigorously in the event the stay of the case is lifted. The probability of a favorable or unfavorable outcome to the Company in the event the stay of the case is lifted is unknown nor can the liability that could potentially result from a negative outcome be reasonably estimated. As a result, the Company has not recorded any accrual associated with this litigation. Additionally, given the status of the proceedings, the complexities of the facts in dispute and the multiple claims involved, the Company is unable to estimate a range of loss related to this litigation.

On July 31, 2012, DataTrak was issued U.S. Patent No. 8,234,294 (the "'294 Patent"), which is closely related to the '087 Patent previously asserted against the Company. On July 31, 2012, the Company filed a lawsuit against DataTrak in the U.S. District Court for the District of New Jersey seeking a declaratory judgment of patent invalidity and non-infringement concerning the '294 Patent. The Company intends to vigorously pursue its claims and defenses concerning the '294 Patent. The ultimate outcome of this litigation cannot presently be determined, nor can the liability that could potentially result from a negative outcome be reasonably estimated. As a result, the Company has not recorded any accrual associated with this litigation. Additionally, given the status of the proceedings, the complexities of the facts in dispute and the multiple claims involved, the Company is unable to estimate a range of loss related to this litigation.

Contractual Warranties — The Company typically provides contractual warranties to its customers covering its product and services. To date, any refunds provided to customers have been immaterial.

Change in Control Agreements — In January 2009, the Company entered into change in control agreements with its chief executive officer and certain other executive officers. These agreements provide for payments to be made to such officers upon involuntary termination of their employment by the Company without cause or by such officers for good reason as defined in the agreements, within a period of 2 years following a change in control. The agreements provide that, upon a qualifying termination event, such officers will be entitled to (a) a severance payment equal to the officer's base salary plus target bonus amount; (b) continuation of health benefits for 12 months; (c) immediate vesting of any remaining unvested equity awards; and (d) a tax gross up payment under Section 280G of the Internal Revenue Code sufficient to reimburse the officer for 50% of any excise tax payable as a result of any termination payments following a change in control, if applicable. In March 2012, the Company amended the agreements with its named executive officers to eliminate the 280G gross-up.

15. UNAUDITED SELECTED QUARTERLY FINANCIAL DATA

The following table presents the Company's unaudited selected quarterly financial data for 2012 and 2011 (in thousands, except for share data):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
For the fiscal year 2012:				
Total revenues	$ 50,359	$ 53,513	$ 55,845	$ 58,630
Gross profit	35,744	37,738	39,946	42,257
Operating income	6,116	5,688	6,839	9,250
Net income	3,770	3,604	4,053	6,593
Earnings per share:				
Basic	$ 0.16	$ 0.15	$ 0.16	$ 0.26
Diluted	$ 0.15	$ 0.14	$ 0.16	$ 0.25
For the fiscal year 2011:				
Total revenues	$ 40,757	$ 50,202	$ 46,305	$ 47,195
Gross profit	27,669	36,846	32,802	34,311
Operating income	3,474	10,723	7,568	792
Net income	3,186	9,997	7,482	18,733
Earnings per share:				
Basic	$ 0.14	$ 0.42	$ 0.32	$ 0.79
Diluted	$ 0.13	$ 0.40	$ 0.31	$ 0.76

Schedule II—Valuation and Qualifying Accounts

The allowance for doubtful accounts as of December 31, 2012 and 2011 was $0.7 million and $0.9 million, respectively. The table below details the activity in the account for the three years ended December 31, 2012 (in thousands):

	2012	2011	2010
Balance at beginning of period	$ 882	$ 308	$ 197
Charged to costs and expenses	165	410	150
Charged to other accounts	239	225	—
Deductions	(539)	(61)	(39)
Balance at end of period	$ 747	$ 882	$ 308

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3 = COMPENSATION
* COMMITTEE CHAIR

Medidata Solutions Stock

Medidata's common stock is listed on the NASDAQ Global Market. Ticker symbol: **MDSO**

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Annual Meeting

Tuesday, April 30, 2013 | 10:00 am Eastern Time
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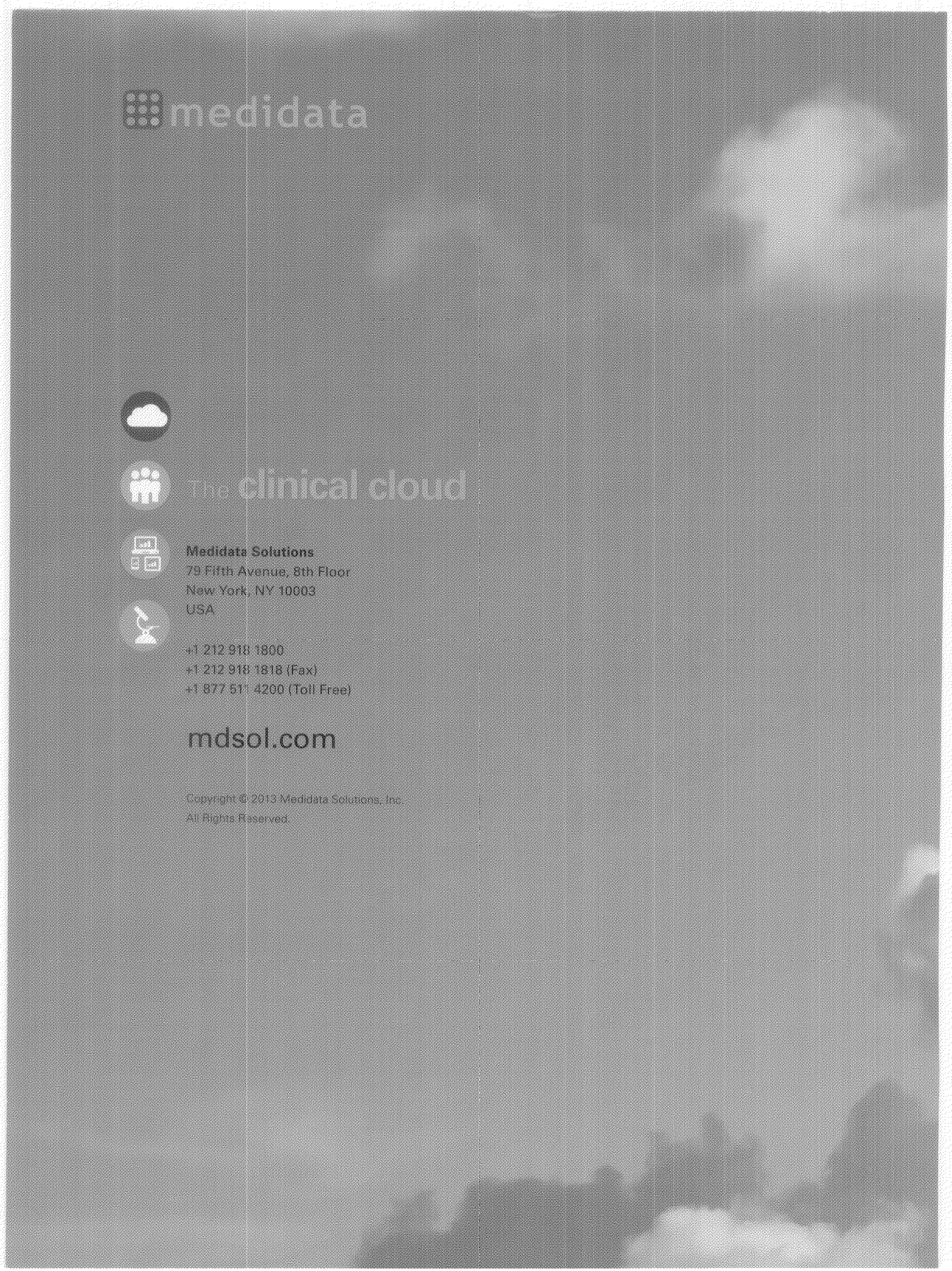

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