

Medidata Solutions, Inc.
Form DEF 14A
April 15, 2014
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A
(Rule 14a-101)
INFORMATION REQUIRED IN PROXY STATEMENT
SCHEDULE 14A INFORMATION
Proxy Statement Pursuant to Section 14(a) of the Securities
Exchange Act of 1934 (Amendment No.)

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

Medidata Solutions, Inc.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

1) Title of each class of securities to which transaction applies:

2) Aggregate number of securities to which transaction applies:

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1) Amount Previously Paid:

2) Form, Schedule or Registration Statement No.:

3) Filing Party:

4) Date Filed:

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April 15, 2014

Dear Stockholders:

We are pleased to invite you to attend the 2014 annual meeting of stockholders of Medidata Solutions, Inc., which will be held at 10:00 a.m., Eastern Daylight Time, on May 28, 2014. As a leading provider of cloud-based technology solutions, we are particularly pleased that this year's annual meeting will be our first completely virtual meeting of stockholders, to be held over the Internet. You will be able to participate in the annual meeting, vote your shares electronically and submit your questions during the live webcast of the meeting by visiting www.virtualshareholdermeeting.com/medidata2014 and entering your 12-digit control number.

At the meeting, we will ask you to elect seven directors, constituting the entire board of directors, to serve for the ensuing year; to approve the Company's Amended and Restated 2014 Employee Stock Purchase Plan; to approve a Charter amendment to increase the number of authorized shares of our common stock; and to ratify the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for the year ending December 31, 2014. In addition, we will hold an advisory vote on executive compensation (commonly referred to as the "say on pay" vote).

The meeting also will provide us an opportunity to review with you our business and affairs since our last annual meeting.

Your vote is important to us and to our business. Whether or not you plan to participate in the live webcast of our annual meeting, we hope you will vote as soon as possible. You may vote over the Internet, as well as by telephone or by mailing a proxy or voting instruction card. Voting over the Internet, by telephone or by written proxy will ensure your representation at the annual meeting regardless of whether you participate in our live webcast. Please review the instructions on the proxy or voting instruction card regarding each of these voting options.

We look forward to your participation at our virtual annual meeting.

Sincerely,

Tarek A. Sherif
Chairman and Chief Executive Officer

Important Notice Regarding the Availability of Proxy Materials

for the Annual Meeting of Stockholders

To Be Held on May 28, 2014

This proxy statement, along with our 2013 annual report to stockholders, is available free of charge at the following website: www.proxyvote.com.

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2014 ANNUAL MEETING OF STOCKHOLDERS

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MEDIDATA SOLUTIONS, INC.

NOTICE OF 2014 ANNUAL MEETING OF STOCKHOLDERS

To Be Held on May 28, 2014

The annual meeting of stockholders of Medidata Solutions, Inc. will be held virtually (that is, over the Internet) on May 28, 2014, at 10:00 a.m., Eastern Daylight Time, for the following purposes:

1. To elect seven directors, constituting the entire board of directors, to hold office until the next annual meeting of stockholders or until their respective successors have been elected and qualified.
2. To hold an advisory vote to approve executive compensation (the say on pay vote).
3. To approve our Amended and Restated 2014 Employee Stock Purchase Plan (ESPP).
4. To approve an amendment to our Charter to increase the number of authorized shares of our common stock.
5. To ratify the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for the year ending December 31, 2014.

6. To transact such other business as may properly come before the meeting or at any and all adjournments or postponements thereof. Attached to this notice is a proxy statement setting forth information with respect to the above items and certain other information. As a leading provider of cloud-based technology solutions, we are pleased that this year's annual meeting will be our first completely virtual meeting of stockholders, to be held over the Internet. You will be able to attend the annual meeting, vote your shares electronically and submit your questions during the live webcast of the meeting by visiting www.virtualshareholdermeeting.com/medidata2014 and entering your 12-digit control number.

If you owned our common stock at the close of business on April 2, 2014, you may participate in and vote at the meeting. A list of stockholders eligible to vote at the meeting will be available for review for any purpose related to the meeting, both during our regular business hours at our headquarters in New York, New York for the ten days prior to the meeting, and online during the Annual Meeting, accessible at www.virtualshareholdermeeting.com/medidata2014.

In accordance with Securities and Exchange Commission rules, we are furnishing these proxy materials and our 2013 Annual Report to Stockholders over the Internet. We believe that posting these materials on the Internet enables us to provide stockholders with the information that they need more quickly, while lowering our costs of printing and delivery and reducing the environmental impact of our annual meeting. Stockholders may request mailed paper copies if preferred. On or about April 16, 2014, we will mail to stockholders as of the record date a notice containing instructions on how to access our Annual Meeting materials and vote via the Internet, mail or telephone. You may also vote electronically during the live webcast of the virtual meeting.

Your vote is very important to us and to our business. Whether or not you plan to participate in our virtual annual meeting, we encourage you to read this proxy statement and submit your proxy or voting instructions as soon as possible.

By order of the board of directors,

Michael I. Otner
Executive Vice President, General Counsel and Secretary

April 15, 2014

350 Hudson Street, 9th Floor

New York, New York 10014

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PROXY STATEMENT

FOR

2014 ANNUAL MEETING OF STOCKHOLDERS

GENERAL INFORMATION

This proxy statement is furnished in connection with the solicitation of proxies by our board of directors for use at the 2014 annual meeting of stockholders to be held on May 28, 2014 (the Annual Meeting), or at any adjournments or postponements of the Annual Meeting, at the time and for the purposes specified in the accompanying notice.

Our Board of Directors has made these proxy materials available to you via the Internet or, upon your request, has delivered printed versions of these materials to you by mail. We are furnishing this proxy statement in connection with the solicitation by our Board of Directors of proxies to be voted at our Annual Meeting. The Annual Meeting will be held on May 28, 2014 at 10:00 a.m. Eastern Daylight Time, or at any adjournment thereof. As described below, the 2014 Annual Meeting will be our first completely virtual meeting of stockholders to be held over the Internet.

INTERNET AVAILABILITY OF ANNUAL MEETING MATERIALS

We are making this proxy statement and our 2013 Annual Report to Stockholders for the year ended December 31, 2013, including our Annual Report on Form 10-K for the year ended December 31, 2013, available to our stockholders on the Internet. On or about April 16, 2014, we will mail our stockholders a Notice of Internet Availability of Proxy Materials containing instructions on how to access our proxy materials, including this proxy statement and our 2013 Annual Report, and vote. If you received a Notice of Internet Availability of Proxy Materials by mail, you will not receive a printed copy of the proxy materials in the mail unless you specifically request these materials. Other stockholders, in accordance with their prior requests, have received e-mail notification of how to access our proxy materials and vote over the Internet, or have been mailed paper copies of our proxy materials and a proxy card or a vote instruction form from their bank or broker.

Internet distribution of proxy materials is designed to expedite receipt by stockholders, lower the cost of our Annual Meeting, and reduce the environmental impact of our Annual Meeting. However, if you received a Notice of Internet Availability of Proxy Materials by mail and would like to receive a printed copy of our proxy materials, please follow the instructions for requesting such materials contained on the Notice of Internet Availability of Proxy Materials. If you have previously elected to receive our proxy materials electronically, you will continue to receive these materials via e-mail unless you elect otherwise.

PARTICIPATING IN THE VIRTUAL ANNUAL MEETING

Medidata Solutions will be hosting this year's Annual Meeting live over the Internet at www.virtualshareholdermeeting.com/medidata2014. This year's Annual Meeting will be a completely virtual meeting of stockholders. A summary of the information you need to participate in our Annual Meeting online is provided below:

Any stockholder can attend and listen to the Annual Meeting live over the Internet at www.virtualshareholdermeeting.com/medidata2014;

Only stockholders as of the record date for the Annual Meeting, by using their 12-digit control number, may vote or submit questions while participating in the live webcast of the Annual Meeting;

Instructions on how to participate in the Annual Meeting are posted at www.virtualshareholdermeeting.com/medidata2014;

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Questions regarding how to participate in the Annual Meeting will be answered by calling 1-855-449-0991 on the meeting date; and

A webcast replay of the Annual Meeting will be available online until May 28, 2015.

In this proxy statement, the terms our company, Medidata, we, us and our refer to Medidata Solutions, Inc. and its consolidated subsidiaries and their predecessors. The mailing address of our principal executive office is Medidata Solutions, Inc., 350 Hudson Street, 9th Floor, New York, New York 10014.

All shares entitled to vote and represented by properly executed proxies delivered pursuant to this solicitation, and not later revoked, will be voted at the Annual Meeting in accordance with the instructions given in the proxy. If no instructions are indicated on a properly executed proxy, the shares represented by that proxy will be voted in accordance with the recommendations of the board of directors as follows:

FOR the election of the seven director nominees;

FOR the approval of executive compensation on an advisory basis (the say on pay vote);

FOR the approval of our Amended and Restated 2014 Employee Stock Purchase Plan (ESPP);

FOR the approval of an amendment to our Charter to increase the number of authorized shares of our common stock;

FOR the ratification of Deloitte & Touche LLP as our independent registered public accounting firm for the year ending December 31, 2014; and

in the discretion of the named proxies with respect to any other matters presented at the Annual Meeting.

All shares of our common stock represented by properly executed and unrevoked proxies will be voted if such proxies are received in time for the meeting.

Who is entitled to vote?

As of the close of business on April 2, 2014, the record date for determination of stockholders entitled to vote at the Annual Meeting, there were outstanding 55,645,870 shares of our common stock (excluding treasury shares, which cannot be voted), all of which are entitled to vote with respect to all matters to be acted upon at the Annual Meeting. Each stockholder of record is entitled to one vote for each share of common stock held by such stockholder. No shares of preferred stock of the company were outstanding as of April 2, 2014.

How many shares must be present or represented to conduct business at the Annual Meeting?

The required quorum for the transaction of business at the meeting is a majority of the total outstanding shares of our common stock entitled to vote at the meeting, either voted electronically during the live webcast or represented by proxy. Both abstentions and broker non-votes are counted for the purpose of determining the presence of a quorum.

Why was I mailed a notice regarding the Internet availability of proxy materials instead of a full set of printed proxy materials?

Pursuant to the notice and access rules adopted by the Securities and Exchange Commission (SEC), we have elected to provide stockholders access to our proxy materials over the Internet. Accordingly, we sent a Notice of Internet Availability of Proxy Materials to all of our stockholders as of the record date. The Notice of Internet Availability of Proxy Materials includes instructions on how to access our proxy materials over the Internet and how to request a printed copy of these materials. In addition, by following the instructions in the Notice of Internet Availability of Proxy Materials, stockholders may request to receive proxy materials in printed form by mail or electronically by email

on an ongoing basis.

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Choosing to receive your future proxy materials by email will save us the cost of printing and mailing documents to you and will reduce the impact of our annual meetings on the environment. If you choose to receive future proxy materials by email, you will receive an email next year with instructions containing a link to those materials and a link to the proxy voting site. Your election to receive proxy materials by email will remain in effect until you terminate it.

What are my voting choices and what is the voting requirement to approve each of the proposals?

1. What are my voting choices when voting for director nominees identified in this proxy statement, and what vote is needed to elect directors?

In the vote on the election of seven director nominees identified in this proxy statement to hold office until the next annual meeting of stockholders or until their respective successors have been elected and qualified, stockholders may:

vote in favor of all nominees;

withhold votes with respect to all nominees; or

withhold votes with respect to specific nominees.

Directors will be elected by a plurality of the votes cast by the holders of the shares of common stock voting electronically during the live webcast or by proxy at the meeting, meaning that the seven nominees receiving the most FOR votes (among votes properly cast electronically during the live webcast or by proxy) will be elected. Only votes FOR will affect the outcome. Withheld votes or broker non-votes will not affect the outcome of the vote.

The board of directors recommends a vote FOR all nominees.

2. What are my voting choices when voting on the advisory proposal to approve executive compensation (the say on pay vote), and what vote is needed to approve the say on pay vote?

In the advisory proposal on executive compensation, stockholders may:

vote in favor of the advisory proposal;

vote against the advisory proposal; or

abstain from voting on the advisory proposal.

The favorable vote of a majority of the votes cast by the holders of the shares of common stock voting electronically during the live webcast or by proxy at the meeting will be required for the approval, on an advisory basis, of the say on pay vote. A properly executed proxy marked Abstain with respect to the say on pay proposal will have the same effect as a vote against the proposal. Broker non-votes will not affect the outcome of the vote. As an advisory vote, this proposal is not binding upon the company. However, the compensation committee, which is responsible for designing and administering the company's executive compensation program, values the opinions expressed by stockholders and will consider the outcome of the vote when making future compensation decisions.

The board of directors recommends an advisory vote FOR the approval of executive compensation.

3. *What are my voting choices when voting on the proposal to approve our Amended and Restated 2014 Employee Stock Purchase Plan, and what vote is needed for such approval?*

In the proposal to approve our Amended and Restated 2014 Employee Stock Purchase Plan, stockholders may:

vote in favor of the proposal;

vote against the proposal; or

abstain from voting on the proposal.

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The favorable vote of a majority of the votes cast by the holders of the shares of common stock voting electronically during the live webcast or by proxy at the meeting will be required for the approval of our Amended and Restated 2014 Employee Stock Purchase Plan. Abstentions from voting on this proposal will have the practical effect of a vote against this proposal because an abstention results in one less vote for the proposal. Broker non-votes will have no effect on this proposal.

The board of directors recommends a vote FOR approval of the Amended and Restated 2014 Employee Stock Purchase Plan.

4. What are my voting choices when voting on the proposed amendment to our Charter to increase the number of authorized shares of our common stock, and what vote is needed to approve such proposal?

In the proposal to approve an increase in the number of authorized shares of our common stock, stockholders may:

vote in favor of the proposal;

vote against the proposal; or

abstain from voting on the proposal.

The favorable vote of a majority of the outstanding shares of common stock is required to approve the proposed Charter amendment effectuating the increase in the number of authorized shares of common stock. Abstentions from voting on this proposal and broker non-votes will have the practical effect of a vote against this proposal because an abstention or a broker non-vote results in one less vote for the proposal.

The board of directors recommends a vote FOR the proposed Charter amendment to increase the number of authorized shares of our common stock.

5. What are my voting choices when voting on the ratification of the appointment of Deloitte & Touche LLP as our independent registered public accounting firm, and what vote is needed to ratify their appointment?

In the vote on the approval of the appointment of Deloitte & Touche LLP as our independent registered public accounting firm, stockholders may:

vote in favor of the ratification;

vote against the ratification; or

abstain from voting on the ratification.

The proposal to ratify the appointment of Deloitte & Touche LLP as independent auditors will require approval by a majority of the votes cast by the holders of the shares of common stock voting electronically during the live webcast or by proxy at the meeting. Abstentions from voting on this proposal will have the practical effect of a vote against this proposal because an abstention results in one less vote for the proposal. Broker non-votes will have no effect on this proposal.

The board of directors recommends a vote FOR the ratification.

How can I vote my shares?

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By proxy. Whether you hold shares directly as the stockholder of record or beneficially in street name, you may direct how your shares are voted without participating in our online Annual Meeting. If you are a stockholder of record, you may vote by submitting a proxy. If you hold shares beneficially in street name, you may vote by submitting voting instructions to your broker, trustee or nominee. For directions on how to vote, please refer to the instructions on your Notice of Internet Availability of Proxy Materials or proxy card or, for shares held beneficially in street name, the voting instruction card provided by your broker, trustee or nominee.

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At our virtual Annual Meeting. Whether you are a stockholder of record or hold your shares in street name, you may vote electronically during the live webcast of our Annual Meeting. You will need to enter your 12-digit control number (included in your Notice of Internet Availability of Proxy Materials, your proxy card or the voting instructions that accompanied your proxy materials) to vote your shares at the Annual Meeting. *Even if you plan to participate in our virtual Annual Meeting, we recommend that you also submit your proxy or voting instructions as described above so that your vote will be counted if you are unable to, or later decide not to, participate in the live webcast of the meeting.*

If any matters are properly presented for consideration at the Annual Meeting, including, among other things, consideration of a motion to adjourn the Annual Meeting to another time (including, without limitation, for the purpose of soliciting additional proxies), the persons named in the proxy card and acting thereunder will have discretion to vote on those matters in accordance with their best judgment. We do not currently anticipate that any other matters will be raised at the Annual Meeting.

What if I am a beneficial owner and do not give voting instructions to my broker?

As a beneficial owner, in order to ensure your shares are voted in the way you would like, you must provide voting instructions to your bank, broker or other nominee by the deadline provided in the materials you receive from your bank, broker or other nominee. If you do not provide voting instructions to your bank, broker or other nominee, whether your shares can be voted by such person depends on the type of item being considered for vote.

Non-Discretionary Items. The election of directors, advisory say on pay vote and votes to approve our 2014 Employee Stock Purchase Plan and to approve a Charter amendment to increase in the number of authorized shares of our common stock are non-discretionary items and may not be voted on by brokers, banks or other nominees who have not received specific voting instructions from beneficial owners. In tabulating the voting result for any particular proposal, shares that constitute broker non-votes are not considered votes cast on that proposal. Thus, broker non-votes will not affect the outcome of any matter being voted on at the Annual Meeting, assuming that a quorum is obtained.

Discretionary Items. The ratification of the appointment of Deloitte & Touche LLP as our independent registered public accounting firm is a discretionary item. Generally, brokers, banks and other nominees that do not receive voting instructions from beneficial owners may vote on this proposal in their discretion.

We encourage you to provide instructions to your broker regarding the voting of your shares.

Can I change my vote or revoke my proxy?

Any holder of our common stock has the right to revoke his or her proxy at any time prior to the voting thereof at the Annual Meeting by (1) filing a written revocation with the Secretary prior to the voting of such proxy, (2) giving a duly executed proxy bearing a later date or (3) participating in and voting electronically during the live webcast of the Annual Meeting. If you hold your shares in the name of a bank, broker or other nominee, you should follow the instructions provided by your bank, broker or nominee in revoking your previously granted proxy.

How are proxies solicited and what is the cost?

We will bear the cost of the solicitation of proxies. In addition to solicitation by mail, our directors, officers and employees may solicit proxies from stockholders by telephone, e-mail or in person. In accordance with SEC regulations, banks, brokers and other custodians, nominees and fiduciaries also will be reimbursed by us, as necessary, for their reasonable expenses for sending proxy solicitation materials to the beneficial owners of our common stock. If warranted, we may engage the services of a proxy solicitor in connection with this solicitation, and would pay customary fees and expenses for these services.

Where can I find the voting results of the Annual Meeting?

We will announce preliminary voting results at the Annual Meeting. Voting results will also be disclosed on a Form 8-K filed with the SEC within four business days after the Annual Meeting, which will be available on our website.

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PROPOSAL 1

ELECTION OF DIRECTORS

At the Annual Meeting, seven directors, constituting the entire board of directors, are to be elected to hold office until the next annual meeting of stockholders or until their respective successors have been elected and qualified. The seven nominees for election at the Annual Meeting are listed below with their biographies. The board of directors, after careful consideration, approved the nomination of each of our currently serving directors. We are not aware of any reason why any nominee would be unable to serve as a director. If any nominee is unable to serve, the shares represented by all valid proxies will be voted for the election of such other person as the board of directors may nominate as a substitute.

The board of directors, acting through its nominating and governance committee, is responsible for nominating a slate of director nominees that collectively have the complementary experience, qualifications, skills and attributes to guide the company and function effectively as a board.

The nominating and governance committee seeks directors with established strong professional reputations and experience in areas relevant to the strategy and operations of our company's business. The nominees for director include individuals who hold or have held senior executive positions in organizations operating in industries and end-markets that our company serves and individuals who have experience serving on boards of directors and board committees of other public companies. In these positions, they have gained experience in core management skills, such as strategic and financial planning, public company financial reporting, compliance, risk management and oversight, leadership development and corporate governance practices and trends.

The nominating and governance committee believes that each of the nominees has other key attributes that are important to an effective board: integrity, candor, analytical skills, the willingness to engage management and each other in a constructive and collaborative fashion, and the ability and commitment to devote significant time and energy to service on the board of directors and its committees. The nominating and governance committee takes into account diversity considerations in determining the company's slate and planning for director succession and believes that, as a group, the nominees bring a diverse range of perspectives to the deliberations of the board of directors. Each of the nominees, other than Messrs. Sherif and de Vries, co-founders of the company, are also independent of the company and management. We believe the atmosphere of our boards of directors is collegial and that all directors are engaged in their responsibilities. For additional information about our director independence requirements, consideration of director candidates, leadership structure of our boards of directors and other corporate governance matters, see "Corporate Governance and Board Matters" beginning on page 9 of this proxy statement.

In addition to the above, the nominating and governance committee also considered the specific experience described in the biographical details that follow in determining to nominate the individuals set forth below for election as directors.

Nominees for Election

Tarek A. Sherif is one of our founders. Mr. Sherif has served as our chief executive officer since 2001 and as a member of our board of directors since 2000. Prior to forming Medidata, Mr. Sherif was the managing member of Sherif Partners L.L.C., a company focused on public and private investments in technology and life science companies. Prior to that, Mr. Sherif served as portfolio manager at R.D.L. Securities, a privately held equity fund specializing in publicly traded technology companies, including those in the healthcare and information technology fields. Mr. Sherif has also served as assistant vice president of corporate finance at General Electric Capital Corporation, and mergers and acquisitions analyst at Brown Brothers Harriman & Company. Mr. Sherif holds a B.A. in economics from Yale College and an M.B.A. in business administration and finance from Columbia University.

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Mr. Sherif brings to our board of directors detailed knowledge and unique perspective and insights regarding the strategic and operational opportunities and challenges, economic and industry trends, and competitive and financial positioning of our business. In addition, his leadership as chief executive officer of our company and his knowledge of the company's industry and business as a co-founder and chief executive officer position him well to serve as our chairman.

Director since 2000

Age 51

Glen M. de Vries is one of our founders. Mr. de Vries has served as our president since February 2008 and as a member of our board of directors since 1999. From 2000 to 2008, Mr. de Vries served as our chief technology officer. Mr. de Vries has over 15 years of experience in medical software development, including electronic health records and consumer-targeted products. As president of OceanTek, Inc., a web development firm focused on applications for the healthcare industry, Mr. de Vries was the chief consultant for a Fortune 500 global e-commerce project, and was the author of web security components currently in use by websites and corporate intranets. Previously, he served as a research assistant at Columbia University focusing on both research science and creating a paperless clinical data management system. Mr. de Vries holds a B.S. in molecular biology and genetics from Carnegie Mellon University.

Mr. de Vries' significant experience as the company's co-founder, former chief technology officer and president provides our board of directors with unique perspectives and insights regarding the company's innovation and strategic vision.

Director since 1999

Age 41

Carlos Domínguez has held various executive positions at Cisco Systems, Inc. and has been serving as its senior vice president, office of the chairman and chief executive officer, since January 2008. Mr. Domínguez joined Cisco in 1992 and previously served as senior vice president of its Worldwide Service Provider Operations group from 2004 to 2008 and as a vice president for U.S. Service Provider Sales from 1999 to 2004.

Mr. Domínguez brings to our board of directors significant managerial experience at Cisco, which gives him the ability to address complex management issues at the most senior levels and provide critical insights into the operational requirements of a global technology company.

Director since 2008

Age 55

Neil M. Kurtz, M.D. has served as president and chief executive officer of Golden Living, LLC, a privately held skilled nursing, hospice, home healthcare and institutional pharmacy company, since August 2008. Prior to joining Golden Living, Dr. Kurtz served as president and chief executive officer and a member of the board of directors of TorreyPines Therapeutics, Inc., a clinical-stage biopharmaceutical company, since 2002. Dr. Kurtz co-founded Worldwide Clinical Trials, a contract research organization, where he held the positions of president and chief executive officer until its acquisition by United Health Group, or UHG, in 1999. After the acquisition, Dr. Kurtz became president of Ingenix Pharmaceutical Services, a division of UHG, and also served as a member of the UHG Executive Board until joining TorreyPines Therapeutics, Inc. Dr. Kurtz's career includes senior positions with Boots Pharmaceuticals, Bayer Corporation, Bristol-Myers Squibb and Merck. He currently serves on the board of directors of Team Health Holdings Inc., a leading provider of outsourced physician staffing solutions for hospitals, and Golden Gate National Senior Care Holdings, and served previously on the board of directors of NeurogesX, Inc., a specialty pharmaceutical company. Dr. Kurtz holds a B.A. in psychology from New York University and an M.D. from the Medical College of Wisconsin.

Dr. Kurtz brings to our board of directors significant operational, regulatory, and financial experience as a senior executive and director in the healthcare industry.

Director since 2002

Age 63

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George W. McCulloch is currently a partner at Level Equity Management, LLC, a private investment firm he co-founded in July 2009. Previously Mr. McCulloch served as a managing director at Insight Venture Partners, which he joined in January 2003. Mr. McCulloch holds a B.A. in history from Stanford University.

Mr. McCulloch brings to our board of directors significant operational, financial, and investment experience from his involvement in Level Equity and Insight and their numerous portfolio companies.

Director since 2004

Age 37

Lee A. Shapiro is currently managing partner of 7wire Ventures, a private firm that seeks and invests in innovative ideas and entrepreneurs mostly in the areas of health care, education, and energy. Previously, Mr. Shapiro was president of Allscripts Healthcare Solutions, Inc., a provider of innovative technology solutions, from 2002 to December 2012, and a consultant to Allscripts from December 2012 to June 2013. Prior to joining Allscripts, he was the chief operating officer of Douglas Elliman-Beitler, a commercial office management and development company, where he directed all business activities throughout the United States. Mr. Shapiro's career also includes serving as president of SES Properties, Inc., vice chairman of City Financial Bancorp and practicing commercial law at Barack, Ferrazzano, Kirschbaum, Perlman & Nagelberg. Mr. Shapiro was also appointed to the Economic Recovery Commission of the State of Illinois during its seating in 2009-2010. Mr. Shapiro holds a J.D. degree from The University of Chicago Law School.

Mr. Shapiro brings to our board of directors significant experience in directing strategic initiatives at a global public healthcare technology company, including mergers and acquisitions, international expansion, business development and partnerships, and business activities in the areas of analytics and information services. Our board of directors also benefits from Mr. Shapiro's experience serving on the boards of private and not-for-profit companies, including Physicians Interactive Holdings, LLC (a wholly owned subsidiary of Merck), EOS Health, Dgedu, Zest Health and the Gastro-Intestinal Research Foundation.

Director since 2011

Age 58

Robert B. Taylor has served as senior vice president for finance and administration of The Colonial Williamsburg Foundation since January 2001. Prior to joining The Colonial Williamsburg Foundation, Mr. Taylor previously served as vice president and treasurer of Wesleyan University from 1985 to 2001. Mr. Taylor also previously served on the board of directors of Zygo Corporation from 1988 to 2013, including as a member of its corporate governance/nominating committee and chairman of its audit committee. Mr. Taylor holds a B.A. from St. Lawrence University.

Mr. Taylor brings to our board of directors significant experience in accounting and finance, which qualifies him as our financial expert, and operational, investment and governance experience from his role as a senior executive and chief financial officer of two large enterprises. Our board of directors also benefits from Mr. Taylor's experience serving on the boards of for profit and not-for-profit companies, including as chair of the audit committee of another public company.

Director since 2008

Age 66

Vote Required

If a quorum is present at the Annual Meeting, the seven nominees receiving the highest number of votes cast will be elected as directors.

Board Recommendation

Our board of directors recommends a vote FOR the election to the board of directors of each of the foregoing nominees.

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CORPORATE GOVERNANCE AND BOARD MATTERS

Director Independence

The board of directors has affirmatively determined that each of the director nominees standing for election, except Tarek Sherif as chief executive officer and Glen de Vries as president, has no relationship that, in the opinion of the board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and is independent within the meaning of the director independence standards of the company, The Nasdaq Stock Market Inc. (NASDAQ) and the Securities and Exchange Commission (SEC). Furthermore, the board of directors has determined that each member of each of the committees of the board of directors is independent within the meaning of applicable committee independence standards of the company, NASDAQ and the SEC, including Rule 10A-3(b)(1) under the Exchange Act of 1934 , as amended (Exchange Act). In making that determination, the board of directors considered all relevant facts and circumstances, including (but not limited to) the director s commercial, industrial, banking, consulting, legal, accounting, charitable and familial relationships.

At least annually, the board of directors evaluates all relationships between the company and each director in light of relevant facts and circumstances for the purposes of determining whether a material relationship exists that might signal a potential conflict of interest or otherwise interfere with such director s ability to satisfy his or her responsibilities as an independent director. Based on this evaluation, the board of directors makes an annual determination of whether each director is independent within the meaning of the independence standards of the company, NASDAQ and the SEC.

Board of Directors and Committees

Our board of directors currently consists of seven members. If all of the director nominees are elected at the Annual Meeting, our board of directors will continue to consist of seven members. The board of directors is responsible for oversight of our business and affairs. To assist the board of directors in carrying out its duties, the board has delegated certain authority to three standing committees: the audit committee, the compensation committee, and the nominating and governance committee.

The membership of each of the audit committee, the compensation committee, and the nominating and governance committee is composed entirely of independent directors. In determining the independence of compensation committee members, the board of directors considers the source and amount of compensation received by the members and whether the member is affiliated with the company. In addition, the members of the audit committee meet the heightened standards of independence for audit committee members required by SEC rules and NASDAQ rules.

The committee membership and the responsibilities of each of the committees are described below.

Name	Audit	Nominating and Governance	Compensation
Tarek A. Sherif			
Glen M. de Vries			
Carlos Dominguez(I)			
Neil M. Kurtz, M.D.(I)			
George W. McCulloch(I)			
Lee A. Shapiro(I)			
Robert B. Taylor(I)			

Chairman

Member

(I) Independent director

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The board of directors has adopted a written charter for each of the three standing committees. Each committee charter is available free of charge in the Corporate Governance section of our website at <http://investor.mdsol.com/governance.cfm> or by writing to Medidata Solutions, Inc., 350 Hudson Street, 9th Floor, New York, New York 10014, c/o Corporate Secretary.

Audit Committee

Messrs. Taylor, Kurtz, McCulloch and Shapiro currently serve on the audit committee. Mr. Taylor is the chairman of our audit committee. The board of directors has determined that each member of the audit committee is independent within the meaning of the director independence standards of the company and NASDAQ as well as the heightened director independence standards of the SEC for audit committee members, including Rule 10A-3(b)(1) under the Exchange Act. The board of directors has also determined that each of the members of the audit committee is financially sophisticated and is able to read and understand consolidated financial statements and that Mr. Taylor is an audit committee financial expert as defined in the Exchange Act.

The composition and responsibilities of the audit committee and the attributes of its members, as reflected in the charter, are intended to be in accordance with applicable requirements for corporate audit committees. The audit committee charter will be reviewed, and amended if necessary, on an annual basis.

The audit committee assists the board in fulfilling its oversight responsibility relating to our financial statements and the disclosure and financial reporting process, our system of internal controls, our internal audit function, the qualifications, independence and performance of our independent registered public accounting firm, compliance with our code of ethics and legal and regulatory requirements. The audit committee has the sole authority to appoint, retain, terminate, compensate and oversee the work of the independent registered public accounting firm, as well as to pre-approve all audit and non-audit services to be provided by the independent registered public accounting firm.

Compensation Committee

Messrs. Kurtz, Dominguez and McCulloch currently serve on the compensation committee. Dr. Kurtz is the chairman of our compensation committee. The board of directors has determined that each member of the compensation committee is a non-employee director within the meaning of Rule 16b-3 of the Exchange Act and independent within the meaning of the director independence standards of the company and NASDAQ. In addition, each member of the compensation committee is an outside director as defined in Section 162(m) of the Internal Revenue Code and a non-employee director as defined under Section 16 of the Exchange Act. In determining the independence of our compensation committee members, the board of directors considered several relevant factors, including but not limited to the source and amount of compensation received by the members and whether the member is affiliated with the company.

The compensation committee reviews and approves our general compensation strategy and on an annual basis evaluates the chief executive officer's performance, determines compensation arrangements for all of our executive officers, including our chief executive officer, and makes recommendations to the board of directors concerning compensation policies for us and our subsidiaries. The Compensation Discussion and Analysis (CD&A) included in this proxy statement includes additional information regarding the compensation committee's processes and procedures for considering and determining executive officer compensation.

The compensation committee is also responsible for, among other things, administering any incentive compensation plans, equity-based compensation plans and other benefit plans and making recommendations to the board of directors with respect to such plans; reviewing and recommending compensation programs for outside directors; reviewing and approving the compensation discussion and analysis and compensation committee report that the SEC requires in our annual proxy statement; and reviewing the succession planning for our executive officers. In addition, the compensation committee is responsible for making recommendations with

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respect to the frequency of say on pay votes and for reviewing the results of the stockholder votes on executive compensation. The compensation committee has the authority to engage independent advisors to assist it in carrying out its responsibilities and to approve any such advisor's fees and other retention terms, as well as the responsibility for oversight of the work of any independent compensation consultant or other advisor it has retained.

Nominating and Governance Committee

Messrs. Taylor, Dominguez and Shapiro currently serve on the nominating and governance committee. Mr. Taylor is the chairman of our nominating and governance committee. The board of directors has determined that each member of the nominating and governance committee is independent within the meaning of the director independence standards of the company, NASDAQ and the SEC.

The nominating and governance committee is responsible for, among other things: reviewing board composition, procedures and committees, and making recommendations on these matters to the board of directors; reviewing, soliciting and making recommendations to the board of directors and stockholders with respect to candidates for election to the board; and overseeing compliance by the board of directors and management with our corporate governance principles and ethics standards and code of conduct.

Consideration of Director Candidates

Director Qualifications. The nominating and governance committee has not formally established any specific, minimum qualifications that must be met by each candidate for the board of directors or specific qualities or skills that are necessary for one or more of the members of the board of directors to possess.

Identifying Nominees. The nominating and governance committee has two primary methods for identifying director candidates (other than those proposed by our stockholders, as discussed below). First, on a periodic basis, the nominating and governance committee will solicit ideas for possible candidates from a number of sources, including members of the board of directors, Medidata executives and individuals personally known to the members of the board of directors. Second, the nominating and governance committee is authorized to use its authority under its charter to retain at the company's expense one or more search firms to identify candidates (and to approve such firms' fees and other retention terms).

Stockholder Candidates. The nominating and governance committee will consider candidates for nomination as a director submitted by stockholders. Although the nominating and governance committee does not have a separate policy that addresses the consideration of director candidates recommended by stockholders, the board of directors does not believe that such a separate policy is necessary because our bylaws permit stockholders to nominate candidates and one of the duties set forth in the nominating and governance committee charter is to consider director candidates submitted by stockholders in accordance with our bylaws. The nominating and governance committee will evaluate individuals recommended by stockholders for nomination as directors according to the criteria discussed above and in accordance with our bylaws and the procedures described under "Stockholder Proposals and Nominations" on page 52 of this proxy statement.

Review of Director Nominees. In evaluating proposed director candidates, the nominating and governance committee may consider, in addition to any minimum qualifications and other criteria for board of directors membership approved by the board of directors from time to time, all facts and circumstances that it deems appropriate or advisable, including, among other things, the proposed director candidate's understanding of the company's business and industry on a technical level, his or her judgment and skills, his or her depth and breadth of professional experience or other background characteristics, his or her independence, his or her willingness to devote the time and effort necessary to be an effective board member, and the needs of the board of directors. We do not have a formal policy with regard to the consideration of diversity in identifying director nominees. However, the board of directors believes that it is essential that its members represent diverse viewpoints, with a

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broad array of experiences, professions, skills, geographic representation and backgrounds that, when considered as a group, provide a sufficient mix of perspectives to allow the board of directors to best fulfill its responsibilities to the long-term interests of our stockholders. The nominating and governance committee considers at least annually, and recommends to the board of directors suggested changes to, if any, the size, composition, organization and governance of the board of directors and its committees.

Board Meetings and Attendance

The board of directors meets on a regularly scheduled basis during the year to review significant developments affecting us and to act on matters requiring their approval. It also holds special meetings when an important matter requires action between scheduled meetings. Members of senior management regularly attend meetings to report on and discuss their areas of responsibility. Executive sessions, excluding management, are also regularly scheduled (see section Meeting of Independent Directors below).

During 2013, the board of directors held six meetings, the audit committee held nine meetings, the compensation committee held eight meetings, and the nominating and governance committee held one meeting. In addition, the board of directors and its committees acts by unanimous written consent from time to time.

Each director attended at least 75% of all board of directors and applicable committee meetings. Directors are expected to attend meetings of the board of directors and meetings of committees on which they serve and to spend as much time and meet as frequently as necessary to properly discharge their responsibilities. In addition, directors are encouraged to attend annual meetings of our stockholders and intend to participate in the online Annual Meeting.

Board Leadership Structure

Under our corporate governance guidelines, the board of directors does not have a policy on whether or not the role of the chairman of the board and chief executive officer should be separate or combined and, if it is to be separate, whether the chairman should be selected from the non-employee directors or be an employee. The board of directors believes that Mr. Sherif's dual role as both chairman of the board and chief executive officer serves the best interests of both the company and its stockholders. His combined role enables decisive leadership, ensures clear accountability, and enhances the company's ability to communicate its message and strategy clearly and consistently to the company's stockholders, employees, customers and suppliers. Mr. Sherif possesses detailed and in-depth knowledge of the issues, opportunities and challenges facing the company and its businesses and is thus best positioned to develop agendas that ensure that the time and attention of the board of directors are focused on the most critical matters. This structure also enables our chief executive officer to act as a bridge between management and the board of directors, helping both to act with a common purpose.

The board of directors appreciates that the advantages gained by having a single chairman and chief executive officer must be viewed in light of potential independence concerns. The board considers, however, that we have adequate safeguards in place to address those concerns. In accordance with our governance guidelines, our board of directors consists of a supermajority of independent directors. In addition, our audit, compensation and nominating and governance committees, which oversee critical matters such as the integrity of our financial statements, the compensation of executive management, the selection and evaluation of directors, and the development and implementation of corporate governance policies, each consist entirely of independent directors.

Board's Role in Risk Oversight

Our board of directors as a whole has responsibility for risk oversight, with reviews of certain areas conducted by the relevant committees that report on their deliberations to the board of directors. The oversight responsibility of the board of directors and its committees is enabled by management reporting processes that are

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designed to provide visibility to the board of directors about the identification, assessment and management of critical risks and management's risk mitigation strategies. Areas of focus include competitive, economic, operational, financial (accounting, credit, liquidity and tax), legal, regulatory, compliance, safety and reputational risks. The board of directors and its committees oversee risks associated with their respective principal areas of focus, as summarized below.

Board/Committee	Primary Areas of Risk Oversight
Full Board of Directors	Strategic, financial and execution risks and exposures associated with the annual operating plan, and strategic planning (including matters affecting capital allocation); and other matters that may present material risk to the company's operations, plans, prospects or reputation; and acquisitions and divestitures (including through post-closing reviews).
Audit Committee	Risks and exposures associated with financial matters, particularly financial reporting, tax, accounting, disclosure, internal control over financial reporting, financial policies, investment guidelines and credit and liquidity matters.
Nominating and Governance Committee	Risks and exposures relating to our programs and policies relating to corporate governance; and director succession planning.
Compensation Committee	Risks and exposures associated with leadership assessment, management development and succession planning, and executive compensation programs and arrangements, including incentive plans. The compensation committee reviews compensation arrangements and programs to ensure that they do not create incentives for employees to take excessive or inappropriate risks which could have a material adverse effect on the company.

Meetings of Independent Directors

Our governance guidelines provide that the independent directors of the company meet in regularly scheduled executive sessions without management participation, which sessions typically occur in conjunction with the regularly scheduled meetings of the board of directors. Currently, the director who presides at these meetings is Mr. Taylor, chairman of our nominating and governance and audit committees.

Outside Advisors

Our board of directors and each of its committees may retain outside advisors and consultants of their choosing at our expense. The board of directors need not obtain management's consent to retain outside advisors.

Board Effectiveness

Our board of directors performs an annual self-assessment, led by Mr. Taylor, in his capacity as chairman of the nominating and governance committee, to evaluate its effectiveness in fulfilling its obligations.

Corporate Governance Guidelines

Our board of directors adopted corporate governance guidelines to assist and guide the directors in the exercise of their responsibilities. These guidelines should be interpreted in accordance with any requirements imposed by applicable federal or state law or regulation, NASDAQ and our certificate of incorporation and

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bylaws. Our corporate governance guidelines are available in the corporate governance section of our website at <http://investor.mdsol.com/governance.cfm>. Although these guidelines have been approved by the board of directors, it is expected that these guidelines will evolve over time as customary practice and legal requirements change. In particular, guidelines that encompass legal, regulatory or exchange requirements as they currently exist will be deemed to be modified as and to the extent such legal, regulatory or exchange requirements are modified. In addition, the guidelines may also be amended by the board of directors at any time as it deems appropriate.

Code of Business Conduct and Ethics

Our board of directors adopted a code of ethics as defined by regulations promulgated under the Securities Act of 1933, as amended (Securities Act), and the Exchange Act that applies to all of our employees, officers and directors, including those officers responsible for financial reporting. The code of ethics is designed to codify the ethical standards that we believe are reasonably designed to deter wrong-doing and to promote, among other things, adherence to the following principles:

honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;

full, fair, accurate, timely and understandable financial statements;

compliance with applicable governmental laws, rules and regulations;

prompt internal reporting of violations of the code; and

accountability for adherence to the code.

We have established procedures to ensure that suspected violations of the code may be reported anonymously. A current copy of our code of ethics is available at <http://investor.mdsol.com/governance.cfm>. A copy may also be obtained, free of charge, from us upon a request directed to Medidata Solutions, Inc., 350 Hudson Street, 9th Floor, New York, New York 10014, c/o Corporate Secretary. We intend to disclose any amendments to or waivers of a provision of the code of ethics granted to directors and officers by posting such information on our website available at www.mdsol.com and/or in our public filings with the SEC.

Stockholder Communications with the Board

Stockholders and other interested parties may make their concerns known confidentially to the board of directors or the independent directors by submitting a communication in an envelope addressed to the Board of Directors, a specifically named independent director or the Independent Directors as a group, in care of the Secretary. All such communications will be conveyed, as applicable, to the full board of directors, the specified independent director or the independent directors as a group.

Compensation Committee Interlocks and Insider Participation

During 2013, Messrs. Dominguez, Kurtz and McCulloch served as members of our compensation committee. No member of the compensation committee has been an officer or employee of the company, or had any other relationship with us requiring disclosure herein. None of our executive officers serves on the board of directors or compensation committee of a company that has an executive officer that serves on our board of directors or compensation committee.

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Director Compensation

The compensation committee of our board of directors has adopted a compensation structure that is applicable to all of our non-employee directors under which each such non-employee director receives the following compensation for service on our board of directors:

an annual cash retainer of \$45,000;

an additional annual cash retainer of \$25,000 for serving as chairman of the audit committee and \$12,000 for serving as a member of the audit committee;

an additional annual cash retainer of \$15,000 for serving as chairman of the compensation committee and \$10,000 for serving as a member of the compensation committee;

an additional annual cash retainer of \$10,000 for serving as chairman of the nominating and governance committee and \$4,000 for serving as a member of the nominating and governance committee; and

upon first joining our board of directors and at each subsequent annual meeting, an equity award valued at \$125,000. The equity awards made to directors in 2013 consisted entirely of restricted stock. Since our directors are elected to a one-year term of office, annual equity grants to directors vest in full one year after the date of grant, provided the director continues to serve through such date.

In April 2014, the board of directors, in light of a competitive market review conducted by our independent compensation consultant (Compensia), adopted the following changes to non-employee director compensation, all effective at the 2014 annual meeting of stockholders:

an increase in the annual equity award value to \$175,000;

an additional annual equity award valued at \$25,000 for the audit committee chair; and

for equity awards made as of the non-employee directors' re-election at the 2014 annual meeting of stockholders, additionally providing for immediate vesting upon expiration of a director's scheduled board term in the event that the director is not nominated for re-election at the next annual meeting or is nominated for re-election but is not elected.

In addition, we reimburse our directors for all reasonable expenses incurred for attending meetings and service on our board of directors.

Our directors are covered by stock ownership guidelines adopted in August 2011. Under these guidelines, non-employee directors are required to obtain ownership of common stock equal to three times the amount of the annual cash retainer paid to non-employee directors for their service as directors within three (3) years from the earlier of August 16, 2011 or from their date of appointment. All non-employee directors are in compliance with these guidelines as of April 2, 2014. The director stock ownership guidelines are part of our Corporate Governance Guidelines and are available on our website at www.mdsol.com in the Investor Relations section under the heading Corporate Governance.

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Other than as provided below, there were no other arrangements pursuant to which any director was compensated during the year ended December 31, 2013 for service as a director. We do not provide any retirement benefits or other perquisites to our directors. Neither of our employee-directors received compensation during 2013 for service as a member of our board.

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)(1)	Option Awards (\$)(1)	All Other Compensation (\$)	Total (\$)
Carlos Dominguez	\$ 59,000	\$ 125,022			\$ 184,022
Neil M. Kurtz	72,000	125,022			197,022
George W. McCulloch	67,000	125,022			192,022
Lee A. Shapiro	61,000	125,022			186,022
Robert B. Taylor	80,000	125,022			205,022

- (1) On April 30, 2013, each non-employee director was granted 3,768 shares of restricted stock (on a post-split basis). The value of the stock awards has been computed in accordance with Financial Accounting Standards Board, or FASB, Accounting Standard Codification, or ASC, 718 (Compensation Stock Compensation), which requires that we recognize as compensation expense the value of all stock-based awards granted to directors in exchange for services over the vesting period. For information on the assumptions used to calculate the value of the awards, refer to Note 11 to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2013, as filed with the Securities and Exchange Commission on February 24, 2014.

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PROPOSAL 2

ADVISORY VOTE TO APPROVE EXECUTIVE COMPENSATION

(THE SAY ON PAY VOTE)

As we do each year, we included a non-binding advisory vote to approve our executive compensation program (also referred to as a say on pay vote) in our 2013 proxy statement. We are gratified that at our 2013 Annual Meeting, our stockholders overwhelmingly approved the proposal, with approximately 97.7% of the votes cast voting in favor of the proposal. In accordance with Section 14A of the Exchange Act, this year we are again asking our stockholders to vote For the compensation of our named executive officers as disclosed in this proxy statement. In considering their vote, stockholders may wish to carefully review our compensation policies and decisions regarding our named executive officers as described in the Compensation Discussion and Analysis and related executive compensation information beginning on page 25.

We believe that our overall compensation program and philosophy support and help drive the company s long-term value creation, business strategy and operating performance objectives. We ask you to indicate your support for the compensation of our named executive officers as described in the Compensation Discussion and Analysis, the compensation tables and the narrative disclosures set forth in this Proxy Statement.

The board of directors recommends that stockholders vote FOR the following resolution:

RESOLVED, that the stockholders approve, on an advisory basis, the compensation of the company s named executive officers, as disclosed in this proxy statement, including the Compensation Discussion and Analysis, the executive compensation tables, and the related narrative.

Because your vote is advisory, it will not be binding upon the board of directors. However, the board of directors values stockholders opinions, and the compensation committee will take into account the outcome of the vote when considering future executive compensation arrangements.

Board Recommendation

Our board of directors recommends an advisory vote FOR the approval of executive compensation.

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PROPOSAL 3

APPROVAL OF AMENDED AND RESTATED

2014 EMPLOYEE STOCK PURCHASE PLAN

On November 7, 2013, our board of directors adopted the Medidata Solutions, Inc. Amended and Restated 2014 Employee Stock Purchase Plan (ESPP) which, as amended in March 2014, is subject to approval by our stockholders at the 2014 Annual Meeting. The ESPP is a broad-based employee plan under which employees may elect to purchase a limited number of shares of our common stock at a discount. The ESPP is designed to comply with the requirements of Section 423 of the Internal Revenue Code (relating to tax qualified employee stock purchase plans). The board of directors believes that the ESPP will assist in the retention of current employees and hiring of new employees, and will provide our employees with an incentive to contribute to our success by providing an opportunity for them to invest in shares of common stock. Accordingly, the board of directors believes that approval of the ESPP is in the best interests of our stockholders. If the ESPP is approved by our stockholders, it will be effective as of January 1, 2014. If this proposal is not approved, the ESPP will terminate and all outstanding employee elections under the ESPP since January 1, 2014 will be retroactively canceled.

A summary of the ESPP is set forth below. This summary is qualified by and subject to the full text of the ESPP, which is attached to this proxy statement as Annex A.

Purpose

The purpose of the ESPP is to provide our employees and employees of our subsidiaries with a convenient way to purchase shares of our common stock. The board of directors believes that participation in the ESPP will incentivize employees to exert maximum efforts for the success of the Company and, in turn, enhance stockholder value. The ESPP Plan is intended to satisfy the requirements of Section 423 of the Code.

Administration

The compensation committee of our board of directors, acting in its discretion in accordance with the plan provisions, has full authority and responsibility for administering the ESPP. The committee may delegate to non-committee members such plan-related functions as it deems appropriate. All determinations and decisions made by the compensation committee regarding the administration of the ESPP will be final and binding on all persons.

Eligibility

In general, our employees who (i) customarily work at least 20 hours per week, and (ii) have been employed by the company no less than ten days as of the first day of an offering period are eligible to participate in the ESPP. Employees who own (directly or indirectly) stock representing 5% or more of the total combined voting power or value of all classes of our stock are not allowed to participate. The company estimates that approximately 900 employees were eligible to become participants in the ESPP on the scheduled effective date.

Stock Subject to the ESPP; Annual Purchase Limitation

If, as proposed, the ESPP is approved by our stockholders, we will be authorized to issue and sell up to 300,000 shares of our common stock to participating employees. Shares covered by participants' purchase rights that expire without having been exercised will remain available for issuance under the plan. We estimate that the number of shares issuable under the ESPP will last for 2 years or more.

In general, for each calendar year, no participant may purchase shares having a value of more than \$25,000, based upon the fair market value of our shares at the beginning of the applicable offering period. This limitation is imposed by Section 423 of the Code and will be administered and applied accordingly.

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Participation; Payroll Deductions

Participation in the ESPP is completely voluntary. Eligible employees who wish to become participants may do so by completing an election form authorizing us to withhold a certain amount from their pay and apply such amount to the purchase of shares under the plan. Payroll deductions are made from after-tax pay. In general, payroll deduction elections are made prior to the beginning of an offering period and remain in effect until subsequently changed or terminated by the employee. (See *Terms of Offerings* below.)

Terms of Offerings

Offering Periods; Purchase Dates. The ESPP will have a series of offering periods, each lasting no more than 27 calendar months. Initially, it is expected that the offering periods will be 24 months and that a new offering period will begin every six months. The first offering period began January 1, 2014 and will end on December 31, 2015. Assuming the ESPP is approved, the second offering period is scheduled to begin on July 1, 2014, and end on June 30, 2016. If the pattern continues, a new 24-month offering period will begin on each subsequent January 1 and July 1. It is also anticipated that an existing offering period will terminate early if the fair market value of our shares on the first day of a new offering period is less than the fair market value of our shares on the first day of the existing offering period. An employee may participate in only one offering period at a time.

Each offering period will have one or more purchase dates when participants' accumulated payroll deductions will be used to purchase shares. The first offering period (which began January 1, 2014) has four purchase dates: June 30, 2014, December 31, 2014, June 30, 2015 and December 31, 2015. It is anticipated that each subsequent 24-month offering period will also have four semi-annual purchase dates. Purchases will be made on the last trading day of each purchase period. See *Purchase of Shares* below for additional information.

Our compensation committee may change the frequency and duration of offering periods and purchase dates under the ESPP, subject to complying with Section 423 of the Code.

Purchase of Shares. On each purchase date within an offering period, the amount of a participant's accumulated payroll deductions will be used to purchase shares of common stock (subject to the \$25,000 annual statutory limit described above). Unless the compensation committee determines a different number, no more than 2,500 shares may be purchased by a participant in any 24-month offering period.

The purchase price per share will be equal to 85% of the fair market value of a share of common stock on the first day of the applicable offering period or, if lower, 85% of the fair market value per share on the applicable purchase date. For this purpose, the fair market value of a share of common stock on any date will be equal to the closing price of a share of common stock on the NASDAQ Global Select Market or, if no shares are traded on that date, the closing price per share on the last preceding date on which such shares are traded. The number of shares purchased by a participant on any purchase date will be equal to the quotient obtained by dividing amount of the participant's accumulated and unused payroll deductions by the applicable purchase price per share, rounded down to nearest whole share.

If the fair market value of our common stock on any purchase date during an offering period is less than the fair market value of our common stock on the first day of the offering period, then a participant's accumulated payroll deductions will be applied to purchase shares of common stock on that purchase date and that offering period will then terminate. In general, the participant will be automatically enrolled for the next succeeding offering period at the same level of payroll deductions in effect for the terminated offering period.

Termination of Participation. In general, employees may elect to withdraw their accumulated contributions before the end of an offering period, in which case they may not again become a participant before the beginning of a subsequent offering period. An employee's participation in the ESPP will automatically terminate if his or her employment terminates. Payroll deductions that have not been used to purchase shares will be returned to a terminated participant without interest.

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Capital Changes; Change in Control

In the event of a stock split, stock dividend, spin-off, recapitalization or other change in our capital structure, the compensation committee may make corresponding adjustments, if any, as it may deem appropriate to the number and class of shares that may be issued under the ESPP, the maximum number of shares that may be purchased during any offering period or calendar year, and the number and class of shares and the purchase price per share covered by purchase rights that are then outstanding under the plan.

If a change in control (described in the plan as a "Sale Event") occurs and if the surviving or acquiring company (or a parent of the surviving or acquiring company) does not assume and continue outstanding ESPP purchase rights or convert them into rights to purchase its own securities, the participants' unused payroll deductions may be applied to purchase shares which, in turn, would participate in the change in control transaction on the same basis as any other outstanding shares. Any such amounts that are not so applied (for example, by reason of applicable plan or legal limitations) will be refunded to the affected participants.

Amendment and Termination of the ESPP

The board of directors and the compensation committee may amend, suspend or terminate the ESPP at any time and for any reason. In general, no such action may adversely affect a participant's then outstanding right to purchase shares with previously accumulated payroll deductions. Amendments may be made without stockholder approval unless such approval is required in order to comply with Section 423 of the Code or applicable stock exchange rules. For example, stockholder approval would be required for an amendment increasing the number of our shares that may be issued and sold under the plan (other than increases made as a result of capital changes, as discussed above under the heading "Capital Changes; Change in Control") or which would expand the classes of employees who are eligible to participate in the plan (other than designations by the compensation committee of subsidiaries whose employees are eligible to participate).

Federal Income Tax Considerations

The following is a general summary under current law of the material federal income tax considerations associated with the ESPP. This summary does not address other tax considerations, such as state, local and foreign taxes, and is for general information purposes only. The ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code. The ESPP is not subject to any provisions of the Employee Retirement Income Security Act of 1974.

The money used by participants to purchase shares under the ESPP comes from after-tax payroll deductions (*i.e.*, all of the shares are purchased with previously-taxed dollars). No taxable income is realized by a participant upon the participant's purchase of shares under the ESPP.

Taxable income (or loss) will be realized, however, when a participant sells ESPP-acquired shares. In general, if the shares are sold more than two years from the first day of the offering period in which the shares are purchased and more than one year from the date of purchase, the participant will realize ordinary income equal to the lesser of (1) the excess of the fair market value of the shares on the date of the sale over the purchase price or (2) 15% of the fair market value of the shares as of the first day of the offering period. Any additional gain will be treated as long-term capital gain. If those shares are sold at a loss (*i.e.*, for less than the purchase price), however, no ordinary income will be realized on the sale and the participant will recognize a long-term capital loss equal to the difference between the sale price and the purchase price.

In general, if a participant sells ESPP-acquired shares before the expiration of the two- and one-year holding periods described above, the participant will realize ordinary income equal to the excess of the fair market value of the ESPP shares on the date the ESPP shares are purchased over the purchase price. If the shares are sold for an amount greater than the fair market value on the purchase date, then the remaining gain will be taxable as

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capital gain. Conversely, if the shares are sold for an amount that is less than fair market value on the purchase date, the participant will recognize a capital loss equal to the difference (without affecting the amount of ordinary income realized in connection with the sale). In general, we will be entitled to a deduction for the amount of any ordinary income realized by a participant upon the sale of ESPP-acquired shares within the two- and one-year holding periods.

New Plan Benefits

The amounts of future stock purchases under the ESPP are not determinable because, under the terms of the ESPP, purchases are based upon elections made by participants. Future purchase prices are not determinable because they are based upon fair market value of shares of common stock.

Initial Offering Period

As noted, the initial offering period under the ESPP began on January 1, 2014. Payroll deductions are being made for approximately 600 employees who elected to participate in the plan for that offering period. If our stockholders do not approve the ESPP at the 2014 Annual Meeting, all such employees' participation elections will be nullified and we will refund all of the payroll deductions made pursuant to those elections. If the ESPP is approved by our Stockholders, then payroll deductions will continue and the amounts accumulated will be applied to the purchase of shares on June 30, 2014 (the initial purchase date).

Vote Required

Approval of the ESPP requires the affirmative vote of the holders of a majority of the shares of common stock voted electronically during the live webcast or represented by proxy and voting on the matter. Abstentions from voting on this proposal will have the practical effect of a vote against this proposal because an abstention results in one less vote for the proposal. Broker non-votes will have no effect on this proposal.

Board Recommendation

Our board of directors recommends that the stockholders approve the Amended and Restated 2014 Employee Stock Purchase Plan, in the form attached.

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PROPOSAL 4

AMENDMENT OF COMPANY CHARTER

TO INCREASE AUTHORIZED SHARES OF COMMON STOCK

Stockholders are being asked to approve an amendment to the company's fourth amended and restated certificate of incorporation (the "Charter") to increase the number of authorized shares of common stock from one hundred million (100,000,000) shares to two hundred million (200,000,000) shares. On March 6, 2014, the board of directors approved this amendment, subject to stockholder approval, and directed that this amendment be submitted to a vote of the company's stockholders at this Annual Meeting. The board of directors has determined that this amendment is in the best interests of the company and its stockholders and recommends approval by the stockholders.

The Charter currently authorizes the issuance of up to 100,000,000 shares of common stock, each with a par value of \$0.01 per share. On December 16, 2013, on direction by the Board of Directors, the Company effected a two-for-one (2:1) split of its common stock in the form of a stock dividend. As of the close of business on April 2, 2014, 55,645,870 shares of common stock were outstanding. In addition, as of the close of business on April 2, 2014, the company had 2,560,477 shares of common stock subject to outstanding stock options, 1,371,030 shares reserved for issuance under the company's current stock incentive plans, and 6,686,790 shares reserved for issuance upon conversion of our convertible senior unsecured notes due 2018. This means that as of April 2, 2014, the company had only 33,735,833 shares of common stock available for corporate purposes, including, among other things, the issuance of stock options and stock splits by way of dividend. The Charter also authorizes the issuance of 5,000,000 shares of preferred stock, none of which are currently issued or outstanding. The proposed amendment will not increase or otherwise affect the company's authorized preferred stock.

Purpose of Amendment

The board of directors believes it is in the best interest of the company to increase the number of authorized shares of common stock in order to give the company greater flexibility in considering and planning for future potential business needs.

The company has no current commitment, arrangement, understanding or agreement regarding the issuance of the additional shares of common stock resulting from the proposed increase in authorized shares. The additional shares of common stock will be available for issuance by the board of directors for various corporate purposes, including but not limited to, grants under employee stock plans, financings, potential strategic transactions, including mergers, acquisitions, strategic partnerships, joint ventures, divestitures, business combinations, stock splits, stock dividends, as well as other general corporate transactions.

Having this additional authorized common stock available for future use will allow the company to issue additional shares of common stock without the expense and delay of arranging a special meeting of stockholders.

Possible Effects of the Amendment and Additional Anti-takeover Considerations

If the amendment to the Charter is approved, the additional authorized shares would be available for issuance at the discretion of the board of directors and without further stockholder approval, except as may be required by law or the rules of NASDAQ. The additional shares of authorized common stock would have the same rights and privileges as the shares of common stock currently issued and outstanding. The adoption of the amendment would not have any immediate dilutive effect on the proportionate voting power or other rights of existing stockholders. Shares of common stock issued otherwise than for a stock split may decrease existing stockholders' percentage equity ownership and, depending on the price at which they are issued, could be dilutive to the voting rights of existing stockholders and have a negative effect on the market price of the common stock. The common stock carries no preemptive rights to purchase additional shares of common stock.

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The company cannot provide assurances that any such transactions will be consummated on favorable terms or at all, that they will enhance stockholder value or that they will not adversely affect the company's business or the trading price of our stock.

The company has not proposed the increase in the number of authorized shares of common stock with the intention of using the additional authorized shares for anti-takeover purposes, but the company would be able to use the additional shares to oppose a hostile takeover attempt or delay or prevent changes in control or management of the company. For example, without further stockholder approval, the board of directors could sell shares of common stock in a private transaction to purchasers who would oppose a takeover or favor the current board of directors. Although this proposal to increase the authorized number of shares of common stock has been prompted by business and financial considerations and not by the threat of any known or threatened hostile takeover attempt, stockholders should be aware that approval of this proposal could facilitate future efforts by the company to oppose changes in control of the company and perpetuate the company's management, including transactions in which the stockholders might otherwise receive a premium for their shares over then current market prices.

If the company's stockholders approve the increase in the number of authorized shares of common stock to 200,000,000, the board of directors will have authority to file with the Secretary of State of Delaware an amendment to the company's Charter to designate an additional 100,000,000 shares of common stock. Upon approval and following such filing with the Secretary of State of the State of Delaware, the amendment will become effective on the date it is filed. The amendment proposed by the company to the Article FOURTH of our Charter (assuming approval of this Proposal 4) is attached to this proxy statement as Annex B.

Neither Delaware law, the company's Charter, nor the company's By-laws provides for appraisal or other similar rights for dissenting stockholders in connection with this proposal. Accordingly, the company's stockholders will have no right to dissent and obtain payment for their shares.

Vote Required

The affirmative vote of a majority of the outstanding shares of common stock is required to approve the proposed Charter amendment.

Board Recommendation

Our board of directors recommends a vote FOR the amendment of the Charter as set forth herein to increase the authorized number of shares of common stock by 100,000,000 shares, to a total of 200,000,000 shares.

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The following table sets forth certain information with respect to the persons serving as executive officers of Medidata as of April 2, 2014.

Name	Age	Position
Tarek A. Sherif	51	Chairman, Chief Executive Officer and Director
Glen M. de Vries	41	President and Director
Cory A. Douglas	47	Executive Vice President Chief Financial Officer
Steven I. Hirschfeld	51	Executive Vice President Chief Value Officer
Alan V. Mateo	51	Executive Vice President Field Operations
Michael I. Otner	43	Executive Vice President General Counsel and Corporate Secretary
Eileen M. Schloss	60	Executive Vice President Human Resources
Daniel P. Shannon	45	Senior Vice President Professional Services
Bryan C. Spielman	47	Executive Vice President Strategy and Corporate Development
Steven F. Wilhite	61	Executive Vice President Chief Marketing Officer

Set forth below is a brief description of the business experience of our executive officers who are not also directors of Medidata.

Cory A. Douglas has served as our executive vice president and chief financial officer since October 2011 and previously served as our senior vice president, controller and chief accounting officer starting in January 2008. Prior to joining us, Mr. Douglas served as senior vice president and controller of The BISYS Group, Inc. from 2005 to 2007, where he was responsible for a variety of duties including accounting, taxes, budgeting and planning and as senior vice president and controller at DoubleClick from 1995 to 2007. At DoubleClick, Mr. Douglas oversaw significant financial operation and internal control improvement, while managing all aspects of accounting and reporting. He began his career as an auditor at Arthur Andersen and Co. Mr. Douglas holds an M.B.A. from The Ohio State University and a B.S. in accounting from San Francisco State University.

Steven I. Hirschfeld has served as our executive vice president and chief value officer since January 2014 and previously served as executive vice president customer operations (from January 2011 to December 2013), executive vice president global sales and alliances (from September 2005 to January 2011), and vice president sales (from September 2002 to September 2005) From 1999 to 2001, Mr. Hirschfeld served as vice president of sales at I-Many, Inc., a provider of software and related professional services to support contract-based business to business relationships. Prior to that, Mr. Hirschfeld spent five years at The Janis Group as sales leader and general manager, where he launched and managed several of The Janis Group's emerging business units and directed the corporate marketing department. Mr. Hirschfeld holds a B.S. in business administration from the University of Delaware.

Alan V. Mateo has served as our executive vice president field operations since January 2014 and previously served as senior vice president starting in February 2008. Before joining us in 2005, Mr. Mateo spent 11 years at PeopleSoft, where his responsibilities included product lines sales, sales operations and the integration of JD Edwards into PeopleSoft's global sales organization. Prior to PeopleSoft, Mr. Mateo was northeast sales director for Red Pepper, a provider of supply chain management planning application software, and a major account executive at JD Edwards where he contributed to five years of exceptional growth. Mr. Mateo holds a BS in both computer science and marketing from Juniata College.

Michael I. Otner has served as our general counsel and corporate secretary since November 2007 and was promoted to executive vice president in February 2013. Prior to joining us, Mr. Otner served as associate general counsel, vice president and assistant secretary of The BISYS Group, Inc. from 2005 to 2007, where he was responsible for a broad range of SEC and general corporate matters, as well as legal support for the company's private equity services business. Mr. Otner previously held various counsel roles of increasing responsibility at

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GlobespanVirata, Inc. and Conexant Systems, Inc., including serving as general counsel at both companies. Mr. Otner began his legal career specializing in corporate and securities law at Olshan (formerly, Olshan Grundman Frome Rosenzweig & Wolosky LLP), a law firm based in New York City. Mr. Otner holds a J.D. from Case Western Reserve University School of Law and a B.B.A. in marketing from the University of Wisconsin-Madison.

Eileen M. Schloss has served as our executive vice president human resources since October 2012. Prior to joining us, Ms. Schloss served as executive vice president at Rovi Corporation, a publicly traded digital media entertainment software and services company, from 2007 to 2012. Prior to that, she held leadership roles in human resources and administration at Caspian Networks, Inc., Exodus Communications, AppGenesys, Inc., Apple Computer, Charles Schwab, Inc. and Tandem Computers, Inc. Ms. Schloss holds a B.S. in Organizational Behavior from the University of San Francisco and an M.S. in Technology Management from Pepperdine University.

Daniel P. Shannon has served as our senior vice president professional services since January 2011 and previously served as vice president, implementation services, since June 2005. Prior to joining us, Mr. Shannon held positions with IBM Business Consulting Services, PricewaterhouseCoopers Management Consulting and Schering-Plough. Mr. Shannon first began his clinical research career as a scientist designing and delivering preclinical and Phase I trials, followed by several years of consulting pharmaceutical and biotechnology organizations on best practices in clinical development. Mr. Shannon received his BA in chemistry from Rutgers University and holds an MS in environmental science from the New Jersey Institute of Technology and an MBA from the Fuqua School of Business at Duke University.

Bryan C. Spielman has served as our executive vice president strategy and corporate development since September 2011. Prior to joining us, Mr. Spielman was a founding partner of the Technology Investment Banking Team at Centerview Partners, where he acted as an advisor and thought partner to management teams across the global technology sector. Prior to that, he held leadership roles in the Technology Investment Banking Groups at UBS Investment Bank and Bear Stearns. Mr. Spielman holds a B.A. in philosophy and political science from the University of Pennsylvania and an M.B.A. from New York University, Stern School of Business.

Steven F. Wilhite joined us as executive vice president and chief marketing officer in May 2013. Before joining us, Mr. Wilhite was self-employed as a management consultant and advisor from January 2010 to May 2013 and was chief executive officer of Jumpstart Automotive Group from March 2008 to January 2010. Prior to that, Mr. Wilhite held senior marketing and/or operational positions at Volkswagen, Apple, Nissan and Hyundai. Mr. Wilhite holds a BA in psychology from Stanford University and an MBA from the University of California, Berkeley.

Compensation Discussion and Analysis

The following discussion and analysis of compensation arrangements of our named executive officers for 2013 should be read together with the executive compensation tables and related disclosures set forth below. Our named executive officers include the individuals who served as our chief executive officer and chief financial officer, as well as our three most highly compensated executive officers (other than our chief executive officer and chief financial officer) who served in such capacities during 2013. This discussion contains forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt may differ materially from currently planned programs as summarized in this discussion.

Executive Summary

This Compensation Discussion and Analysis describes the material elements of our compensation programs and explains our executive compensation philosophy, policies and practices for the following executives, who are

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referred to in this Compensation Discussion and Analysis and in the subsequent tables as our named executive officers for 2013: Tarek Sherif, chairman and chief executive officer; Glen de Vries, president; Cory Douglas, executive vice president, chief financial officer; Steven Hirschfeld, executive vice president, chief value officer; and Steven Wilhite, executive vice president, chief marketing officer.

Medidata is focused on helping our customers to improve the way new drugs are developed by providing cloud-based clinical development solutions that enhance the efficiency of clinical trials. To achieve our corporate mission, we rely on our employees. We encourage teamwork and collaboration among our employees and we demand accountability and strong results. The company's goal for its executive compensation program is to attract, motivate and retain the best possible executive talent. We believe that executive compensation should support our business goals and encourage increased stockholder value. We maintain compensation programs that link executive compensation to the achievement of key goals, including revenue and profitability measures. To achieve our objectives, we use a mix of compensation elements including base salary, performance-based cash incentives, equity incentives, change of control benefits and employee benefits.

The company believes the compensation program for the executive officers was instrumental in helping the company achieve strong financial performance in 2013:

In 2013, revenue grew to \$276.8 million, representing an increase of \$58.5 million or 27% year over year.

Non-Rave revenues increased 114% year-over-year to \$61.1 million.

EBITDAO (earnings before interest, taxes, depreciation, amortization and stock-based compensation, as further described below) grew 43% to \$67.2 million.

Our 1-year total stockholder return (TSR) was 208.8% (measured by comparing the stock price as of December 31, 2012 vs. the stock price as of December 31, 2013). Our 3-year TSR was 406.7% (measured by comparing the stock price as of December 31, 2010 vs. the stock price as of December 31, 2013).

Corporate Governance

We maintain the following policies as a matter of good corporate governance:

Our compensation committee retains an independent compensation consulting firm.

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In February 2013, we adopted stock ownership guidelines for our executive officers, setting forth guidelines for ownership of a number of shares equal in value to 2 to 5 times the individuals' annual base salary (as applicable). Further details of those guidelines are described below under the heading "Stock Ownership Guidelines."

Seventy-five percent of equity awards to our executive officers are contingent upon the achievement of performance goals.

We have reasonable "double trigger" change in control provisions, which provides benefits to the individual only if there is both the occurrence of a change in control and the involuntary or constructive termination of the individual within a designated protection period.

We do not have an executive retirement plan that provides extra benefits to our executive officers.

Our equity plan prohibits the repricing of options without stockholder approval.

We do not provide tax gross-ups to any of our executive officers.

We have no employment agreements or multi-year compensation guarantees for any of our named executive officers.

All employees are prohibited from engaging in hedging transactions in Medidata shares.

Compensation Setting Process

At the direction of the board of directors, the compensation committee endeavors to ensure that the compensation programs for executive officers of the company and its subsidiaries are competitive and consistent with market conditions in order to attract and retain key executives critical to the company's long-term success. The committee also must ensure that the compensation is attractive to key executives with the proper background and experience required for the future growth of the company. The compensation committee believes that the company's overall financial performance and long-term stockholder value should be the most important factors in determining the total compensation of executive officers. At the executive officer level, the committee has a policy that a significant proportion of potential total compensation should consist of variable, performance-based components, such as performance-based restricted stock units (PBRsUs) and annual incentive plan compensation, which can increase or decrease to reflect changes in individual performance. These incentive compensation programs are intended to reward performance and long-term stockholder value.

The compensation committee evaluates the total compensation of the named executive officers and other executives in light of information regarding the compensation practices and corporate financial performance of similar companies in the company's industry. Market compensation levels are important inputs into the decision-making process. Additional factors considered include job scope, individual skills/experience, relative importance of the individual's role, internal pay equity, historical pay levels and equity holdings, and recent company performance.

Say-on-Pay Vote for 2012 Executive Compensation

The advisory vote on named executive officer compensation at our 2013 annual meeting received 97.7% favorable votes from our stockholders. The compensation committee believes that this result generally affirmed stockholder support of our approach to executive compensation.

The compensation committee is committed to ensuring that the compensation programs for which they are responsible are consistent with the company's pay for performance policy, and delivers appropriate results given performance and business conditions. Stockholder feedback through this advisory vote will remain an important input into the compensation committee's work on compensation design and disclosure.

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Compensation Philosophy: Our Objectives, Elements and Considerations

Our executive compensation programs are designed to:

attract and retain talented and experienced executives by offering market competitive compensation programs;

motivate key executives to achieve strategic business initiatives and to reward them for their achievements;

support a pay-for-performance environment that differentiates bonus amounts among the named executive officers on their responsibilities and contributions toward company performance; and

align the interests of executives with the long-term interests of our stockholders through equity-based awards whose value over time depends upon the market value of the company's common stock.

To achieve these objectives, our executive compensation package provides a mix of compensation elements, including base salary, annual variable cash bonuses, stock-based compensation, and broad-based employee benefits. In addition to these key elements of compensation, our compensation framework includes double-trigger termination change in control protections. See Post-Termination Compensation and Benefits.

The compensation committee's pay-for-performance philosophy places a much greater emphasis on the at-risk earnings of our named executive officers so that their interests are better aligned with the interests of our stockholders. The compensation committee therefore awards significant levels of at-risk compensation in the form of performance-based awards that are directly tied to our financial performance and the creation of stockholder value.

Our pay-for-performance principles are exemplified in the relative amounts of 2013 performance-based and non-performance-based compensation for our CEO and President, as shown in the following chart.

* Based on the amounts reported for Messrs. Sherif and de Vries for 2013 in the Summary Compensation Table on p. 38 of this proxy statement; excludes their one-time special TSR bonus awards in recognition of the company's outstanding 2012 total stockholder return performance.

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While the compensation committee reviews the external market data, it does not target any specific pay percentile within those companies for purposes of setting cash compensation levels. Rather, the purpose of this analysis is to determine whether the compensation offered to each named executive officer, both in total and with respect to each of the constituent components, is competitive with the applicable market comparables that the compensation committee has reviewed for the corresponding period. Where total compensation or a specific component of compensation is not within a competitive range, the compensation committee uses the competitive market data as one factor in making its compensation decision, but may also take into account factors specific to a named executive officer in making its final compensation decisions, including each named executive officer's position and functional role, seniority, experience, performance and overall level of responsibility. The weighting among the compensation components is structured such that a majority of an executive's potential financial compensation will be incentive-based (cash bonuses and equity incentives), rather than fixed (base salary). Our compensation committee believes that this structure strongly emphasizes the performance-based nature of our compensation program.

The compensation committee considers many factors in setting pay levels. Factors considered in setting individual executive pay include the executive's experience, responsibility, performance, criticality to the organization, competitive market data and internal fairness between executives. When the committee reviews the market data, they generally consider the middle two quartiles (*i.e.*, from the 25th to the 75th percentiles) as the competitive market. We do not specifically target a specific pay percentile because we look at more than one market source and they do not always agree with each other and our executives' positions and responsibilities do not always match well with the positions listed in the market data.

We generally categorize our incentive compensation as either annual or long-term. Annual incentive programs included all compensation, whether cash or equity, which is earned or vests based on achieving pre-defined financial performance or other employment objectives within 12 months from the date of grant. Long-term incentive programs include all compensation, whether cash or equity, which is earned or vests based on achieving pre-defined financial performance or other employment objectives more than 12 months after the date of grant.

Base Salary

Base salary is used to recognize the experience, skills, knowledge and responsibilities required of each named executive officer, as well as the prevailing market conditions. The base salary of our named executive officers will be generally reviewed on an annual basis and adjustments may be made to reflect performance-based factors, as well as competitive conditions, experience and tenure. We have not and currently do not intend to apply specific formulas to determine increases. We have, however, in the past few years referred to public company surveys, as well as data from our select peer group, and may in the future continue to compare our base salary against those public companies we consider to be appropriate market comparables. Where it is determined that our base salary is not competitive, market data may inform, but will not be the sole basis for, decisions to adjust base salary.

In 2013, the compensation committee reviewed the base salaries of our named executive officers focusing on the competitiveness of these salaries, based on compensation survey data and our select peer group. Based on that information, a review of each named executive officer's performance and the recommendations of Mr. Sherif (for everyone but himself and Mr. de Vries) and the desire to retain our named executive officers, the compensation committee approved base salary increases for certain of the named executive officers. Effective January 1, 2013, Messrs. Sherif and de Vries each received a 9.2% increase in base salary; Mr. Douglas received a 3.1% increase in base salary; and Mr. Hirschfeld received a 5.2% increase in base salary. (Mr. Wilhite joined us in May 2013.)

Annual Bonus

Performance-based cash incentives are paid to our named executive officers based on the achievement of corporate performance objectives and a qualitative assessment of the applicable officer's individual performance,

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each as determined by the compensation committee. The corporate objectives may change from year to year as our company and market conditions continue to evolve and different priorities are established, but the compensation committee plans to continue to set those performance objectives and to measure performance against them. For 2013, the cash incentive compensation target percentage for our named executive officers ranged from 50% to 100% of annual base salary. The compensation committee used external market data to determine the applicable target percentages for each named executive officer. Annual cash incentives are paid to reward achievement of critical operating, financial, strategic and individual measures and goals that are expected to contribute to stockholder value creation over time.

The cash bonuses paid for the 2013 performance of our chief executive officer and president were determined by the Committee based 100% on the achievement of corporate financial performance objectives, and the cash bonuses for the 2013 performance of each of our other named executive officers were determined by the Committee based 75% on the satisfaction of corporate financial performance objectives and 25% on the satisfaction of individual performance objectives based on his or her individual responsibilities. For the individual performance component, payments are determined at the discretion of the compensation committee based on objective metrics, the committee's qualitative assessment of each named executive officer's individual performance, and the feedback from our chief executive officer about the individual's performance and collaborative contribution to our company's overall success. The compensation committee retains the ability to increase or decrease performance-based cash incentive awards, and to make additional awards.

The total cash bonuses paid to our named executive officers for 2013 performance are as follows:

Name	2013 CASH BONUS PAYOUT						
	Annual Base Salary	Target Bonus Percentage	Target Bonus Amount	75% REV/ EBITDAO	25% NON-RAVE	25% Individual Performance	Total Bonus
Tarek A. Sherif	\$ 475,000	100%	\$ 475,000	\$ 689,308	\$ 387,307	N/A*	\$ 1,076,615
Glen M. de Vries	\$ 475,000	100%	\$ 475,000	\$ 689,308	\$ 387,307	N/A*	\$ 1,076,615
Cory A. Douglas	\$ 330,000	60%	\$ 198,000	\$ 215,499	\$ 121,084	\$ 49,500	\$ 386,083
Steven I. Hirschfeld	\$ 325,000	100%	\$ 325,000	\$ 353,724	\$ 198,750	\$ 75,732	\$ 628,206
Steven F. Wilhite	\$ 350,000	50%	\$ 116,515	\$ 126,813	\$ 71,253	\$ 29,129	\$ 227,195

* For Messrs. Sherif and de Vries, cash bonuses were determined 100% on the achievement of corporate performance objectives. The corporate financial performance component of these bonuses consisted of:

Corporate financial targets (75%) 2013 revenue and 2013 EBITDAO (as defined below), and

Non-Rave product goals (25%) 2013 non-Rave product revenue growth.

The compensation committee selected these financial metrics as broad indicators of the success of our business and their likely alignment with stockholder value creation. EBITDAO is a non-GAAP measure that represents net income calculated in accordance with GAAP, excluding interest, taxes, depreciation, amortization and stock-based compensation. Other one-time or extraordinary expense or income items may be excluded at the compensation committee's discretion. The company believes that EBITDAO provides a meaningful measure of core financial performance and supports our short-term and long-term business objectives.

Both corporate financial metrics are weighted equally in determining the total financial metric factor, with the opportunity to earn annual incentives in excess of that level based on achieving performance superior to the objectives established by our compensation committee. The performance targets used for annual incentives for 2013 performance included \$267.3 million of revenue and \$58.5 million of EBITDAO. The compensation

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committee established a target grid comparing revenue and EBITDAO at different levels. The specific targets for each financial metric were, in the judgment of the compensation committee, achievable but nevertheless subject to a number of uncertainties and extraneous influences which could prevent their achievement. Earned bonus amounts are subject to negative adjustment at the committee's discretion. Ultimate achievement of performance objectives were evaluated by our compensation committee based on the annual targets and after considering overall events and factors for the year.

Having determined that we had met and exceeded our revenue and profitability objectives for 2013, the committee determined a bonus factor of 194% for the financial goals (75% of total allocation), as shown in the following table (showing target and actual revenue and EBITDAO reference points for the calculation, with intermediate points interpolated).

	Revenue (\$M)	EBITDAO (\$M)	Financial Bonus Factor
2013 Minimum Threshold	\$ 264.3	\$ 43.5	0%
2013 Target	\$ 267.3	\$ 58.5	100%
2013 Actual	\$ 276.9	\$ 67.2	194%

Based on revenue for Non-Rave products increasing to \$61.1 million in 2013 from \$31.1 million in 2012, the Committee determined a bonus factor of 326% for the new product goals (25% of total allocation), as shown in the following table (showing target and actual non-Rave revenue reference points for the calculation, with intermediate points interpolated).

	Revenue (\$M)	Non-Rave Bonus Factor
2013 Minimum Threshold	\$ 38.5	0%
2013 Target	\$ 46.0	100%
2013 Actual	\$ 61.1	326%

Long-Term Incentives

We believe that long-term performance is achieved through an ownership culture that encourages participation by our executive officers in equity-based awards. Our incentive plans have been established to provide our executive officers with incentives to help align their interests with the interests of our stockholders. The compensation committee recognizes that while the annual cash bonus rewards management actions that impact short- and mid-term performance, the interests of our stockholders are also served by giving key employees the opportunity to participate in the long-term appreciation of our common stock through equity grants. Equity awards encourage management to create stockholder value over the long term because the value of the equity awards is directly attributable to the price of our common stock over time. In addition, equity awards are an effective tool for management retention because they are subject to vesting over an extended period of time and provide for only a limited exercise period following termination of employment.

Starting in 2013, the compensation committee revised its allocation so that 100% of the equity awards to executive officers are in the form of restricted stock and Performance Based Restricted Stock Units (PBRUs). The compensation committee believes that restricted stock and restricted stock units provide a stronger incentive to create and preserve long-term stockholder value. Restricted stock and stock unit awards promote employee retention and stock ownership and may also help manage shareholder dilution that would result from using only options. Furthermore, restricted stock and unit awards are increasingly prevalent among our peer group companies.

Currently, 25% of our equity awards to executive officers are in the form of shares of restricted stock with time-based vesting (generally annually over four years), and 75% of such awards are in the form of Performance

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Based Restricted Stock Units (PBRsUs). Each PBRsU represents a contingent right to receive 0% to 200% of the target number of shares. The number of shares actually earned from PBRsUs in a given year shall be in a range from 0% to 200% of the target amount, based on the metrics described below applied to the previous year. Once earned, the shares issued in settlement of the PBRsUs vest annually over three years from the grant date.

For the PBRsU awards made in February 2013, two-thirds were based on our achievement of performance goals tied to 2013 revenue guidance and minimum profitability, and one-third was based on our TSR for the year ending December 31, 2013 relative to the TSR of companies in the NASDAQ Composite Index for 2013. The table below indicates select reference points (representing 0%, 100% and 200% of target, with intermediate points interpolated) for the calculations leading to the 200% PBRsU earnings determination made by our compensation committee in February 2014.

Revenue and Minimum Profitability			
Percentage of PBRsU Award			66 2/3%
2012 Revenue			\$ 218.3 million
2013 Revenue			\$ 276.9 million
2013 revenue			
	(\$M)	Revenue growth	Percentage of target achieved
	\$275.1	26.00%	200%
	\$267.5	22.50%	100%
	\$262.0	20.00%	0%
NASDAQ (TSR)			
Percentage of PBRsU Award			33 1/3%
2013 Medidata TSR			209%
2013 NASDAQ TSR			38%
Medidata > NASDAQ			171%
TSR Relative to NASDAQ			
	Composite Index		Percentage of target achieved
	10%		200.0%
	0%		100.0%
	-10%		0.0%

The aggregate number of shares of restricted stock and PBRsUs granted to our named executive officers is based on an estimated target value of the equity awards. The compensation committee believes that annual equity awards generally create strong incentives to drive future stockholder return, and determines annual equity awards for each executive with reference to the market data from our peer group. The determination of the number of shares covered for each grant (viewed in the aggregate by value) is based on our chief executive officer's recommendations, except with respect to himself and the president, the compensation committee's assessment of each executive's potential current and future contributions to our company, competitive peer group data for their respective positions, and the compensation committee's assessment of the retention value of existing equity grants.

Special Additional 2013 Equity Grants**Long-Term PBRsUs (3-year performance period)**

In February 2013, our compensation committee approved special long-term PBRsUs to each of our named executive officers and other senior management. Our compensation committee approved these grants to serve as an incentive to our senior management team to achieve stretch growth targets. These PBRsUs will be earned on December 31, 2015, with the number earned ranging from 0% to 300% of target, based on our company's revenue compound annual growth rate (CAGR) and total stockholder return over a three-year performance period (from January 1, 2013 through December 31, 2015). None of these long-term PBRsUs shall be earned unless the 3-year (2013-15) CAGR equals or exceeds 20%,

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which would represent a significant (greater than one-third) increase over our company's 14.5% CAGR over the 3-year period (2010-12) preceding the grant year. Earning 300% of target would require either 2013-15 CAGR at or above 27.5% or 2013-15 CAGR of at least 20% plus a 2013-15 TSR of at least 200%. In addition, the percentage earned will be capped at 100% if the 2013-15 TSR is negative, regardless of by how much the 2013-15 CAGR exceeds 20%. In addition to providing an incentive for senior management to achieve these stretch goals, our compensation committee believed the grants would help our company retain qualified talent, provide competitive compensation and further align senior management's interests with those of our stockholders. Our compensation committee worked with Compensia, Inc. (see Independent Compensation Consultant below) to determine the performance metrics and targets that would provide the appropriate long-term incentives for senior management.

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TSR Bonus Award (for exceptional 2012 performance)

In February 2013, the compensation committee approved the creation of a special bonus award pool of \$7.0 million (representing approximately 1.46% of the \$478.9 million increase in our market capitalization during 2012), payable to executive officers and certain senior-vice presidents in connection with our exceptional performance during 2012, as demonstrated by our company's TSR of 80.1% for 2012, which far exceeded the NASDAQ Composite Index's 2012 TSR of 15.9%. The compensation committee granted the awards recognizing that strong senior leadership was critical to our expanded business activity in 2012, which increased backlog 38% year-on-year and laid the groundwork for our accelerated growth in 2013 and beyond. These awards were made pursuant to the Amended and Restated 2009 Long-Term Incentive Plan in the form of shares of restricted stock, which vested in full on December 31, 2013. Messrs. Sherif and de Vries each received 75,692 shares of restricted stock, Mr. Douglas received 24,134 shares of restricted stock, and Mr. Hirschfeld received 43,878 shares of restricted stock (on a post-split basis). Mr. Wilhite had not yet joined our company at the time of this special bonus award and so did not receive any stock under it. These special bonus awards constituted additional compensation to the executives based on the company's exceptional performance in 2012. They were given a one-year vesting schedule to provide additional retention through another important year of the development of the company. The compensation committee does not plan to make these awards on a regular basis as part of our compensation program.

Independent Compensation Consultant

The compensation committee has the authority under its charter to engage the services of outside advisors, experts and others to assist the committee. For purposes of its 2013 executive compensation review, the compensation committee directly retained the services of Compensia, Inc., an independent national executive compensation consulting firm. Compensia reviewed and advised on all principal aspects of the executive compensation program, including, but not limited to, providing recommendations regarding the composition of our select peer group, analyzing select peer group proxy statements, compensation survey data, and other publicly available data (including applying its experience with other companies), and reviewing and advising on executive total compensation. For 2013, Compensia also assisted the compensation committee with our equity compensation strategy, including the appropriate mix and weight of different equity vehicles. Representatives of Compensia attend meetings of the compensation committee as requested and also communicate with the compensation committee outside of meetings. Compensia reports to the compensation committee rather than to management, although Compensia will meet with members of management for purposes of reviewing the market data Compensia compiles, gathering information on current compensation practices and providing feedback to management on proposals that management may make to the compensation committee.

The compensation committee may replace Compensia or hire additional advisors at any time. Compensia has not provided any other services to us and has received no compensation other than with respect to the services described above. Based on the consideration of the various factors as set forth in the rules of the SEC and NASDAQ, the compensation committee deems Compensia to be independent of management and does not believe that its relationship with Compensia and the work of Compensia on behalf of the compensation committee have raised any conflict of interest.

Roles of the Compensation Committee

Our committee determines all compensation for our chief executive officer and our other executive officers, including salaries, cash-based incentives and equity-based incentives. The compensation committee directs management, including the chief executive officer, to prepare reports and recommendations for the review, discussion, modification and final approval by the compensation committee with respect to various aspects of our named executive officers' total compensation. The compensation committee believes, for example, that the executive officers have greater day-to-day insight into the key metrics on which company performance should be evaluated. Consequently, the compensation committee directs the chief executive officer, and for certain matters,

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the chief financial officer or executive vice president- human resources, to prepare recommendations with respect to appropriate qualitative and quantitative criteria on which our named executive officers' performance might be based.

The compensation committee considers these reports and recommendations provided by the chief executive officer or other executive officers in discharging its duties with respect to reviewing and setting named executive officer compensation. Other resources that our compensation committee may rely upon include the individual board members' respective experiences and recommendations, recommendations of Compensia, peer and other market competitive compensation data provided by Compensia or management, the deliberative process of the compensation committee, and any other resources that the compensation committee may determine are relevant.

Participation of Management in Compensation Decisions

Our internal personnel responsible for compensation analysis for the company generally attend a portion of each of the compensation committee's meetings and leave before certain executive sessions. No executive officer was present or participated directly in the compensation committee or the board's final determinations regarding the amount of any component of his or her own compensation. However, given his responsibilities for managing the performance of our executive officers, our chief executive officer plays a primary role in establishing the performance goals for, and evaluating the performance of, our other named executive officers. The compensation committee solicits and considers his evaluations and recommendations, including his recommendations regarding compensation in a given year. In the case of determining the compensation of our chief executive officer, the compensation committee meets outside the presence of our chief executive officer.

Once the compensation committee has made compensation decisions with respect to our named executive officer compensation, neither the chief executive officer nor any other named executive officer has any discretion or authority to increase or decrease the approved compensation, whether in the form of base salary, cash incentive compensation, equity compensation or benefits.

Executive Officer Market Compensation Data

In making compensation decisions, the compensation committee periodically compares each element of total compensation against a peer group of publicly-traded companies that met the following criteria: (1) companies with similar revenue and market capitalization as us; (2) software, healthcare technology and software-as-a-service companies; and (3) companies against which the committee believes the company competes for talent and for stockholder investment. In August 2013, in consultation with Compensia, the compensation committee evaluated and updated our select peer group so that it now consists of the following 18 companies: Aspen Technology, Inc., athenahealth, Inc., Bazaarvoice, Inc., Blackbaud, Inc., BroadSoft, Inc., Cornerstone OnDemand, Inc., Infoblox Inc., Jive Software, Inc., LogMeIn, Inc., MedAssets, Inc., NetSuite Inc., Omnicell, Inc., Quality Systems, Inc., RealPage, Inc., Responsys, Inc., ServiceNow, Inc., Synchronoss Technologies, Inc., and The Ultimate Software Group, Inc.

The median revenue of the select peer group was \$320 million for the four quarters completed as of June 30, 2013, the median market capitalization of the select peer group was \$1.47 billion as of July 31, 2013 and the median headcount of the select peer group was 1,208 employees as of the end of each company's most recently completed year. Our revenue for the same four quarters was \$246 million, our market capitalization as of July 31, 2013 was \$2.12 billion, and we had 796 employees at the time of the 2013 peer group evaluation. We intend to continue reviewing the select peer group annually.

Post-Termination Compensation and Benefits

Medidata provides change-in-control severance benefits for its named executive officers and certain other executives, which are generally intended to mitigate the potential conflict of interest and distractions that may otherwise arise in a potential change-in-control transaction. These benefits are based on a double trigger approach and only arise if there is a material negative change to employment arising in the period beginning on

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the date a definitive transaction agreement is signed and ending two years after a change in control of Medidata. In March 2012, we revised our change-in-control benefits such that they no longer include any excise tax gross-up rights and the executives are personally responsible for the payment of any excise tax. The change-in-control severance rights of our named executive officers are outlined in *Potential Payments upon Termination of Employment or a Change of Control* beginning on page 42.

Our change-in-control benefits include a lump sum payment equal to 100% of the executive's annual base salary and target bonus, continuing group health and life insurance coverage for 12 months following termination and the accelerated vesting of equity compensation awards that are not assumed by the acquiring or successor company. In connection with its approval of these benefits, the compensation committee considered competitive market and best practice data provided by outside advisors. The compensation committee also reviewed the cost to the company of such agreements and the individual payout levels to the executives under various scenarios. Following its review, the compensation committee determined that the cost of these agreements was reasonable and not excessive, given the benefit conferred to us. We believe that these agreements will help to maintain the continued focus and dedication of these executive officers to their assigned duties without the distraction that could result from the possibility of a change-of-control.

For additional information on these change-in-control agreements, see *Potential Payments upon Termination of Employment or a Change of Control* below.

Employee Benefits and Perquisites

Consistent with our compensation philosophy to attract and retain talent, we intend to continue to maintain competitive employee benefits and perquisites for all employees, including executive officers.

In 2013, our named executive officers, like our other employees, participated in various employee benefit plans, including medical and dental care plans, qualified 401(k) retirement plan, life, accidental death and dismemberment and disability insurance, paid time off and other benefits.

For a further description of these benefits provided in 2013, please refer to the Summary Compensation Table.

We do not generally differentiate the benefits we offer our named executive officers from the benefits we offer our other employees and we also do not currently maintain any benefit programs exclusive to executives such as executive pension plans, deferred compensation plans, supplemental insurance or other executive retirement benefits. In the future, the compensation committee, in its discretion, may revise, amend or add to the officers' executive benefits and perquisites as it deems advisable.

Risks Presented by Compensation Programs

We have reviewed our compensation policies for all employees, including employees who are not executive officers, as they pertain to risk, and we have determined that our compensation programs do not create or encourage the taking of risks that are reasonably likely to have a material adverse effect on our company. Several elements of the compensation program are designed to promote long-term stockholder value creation and incorporate components to mitigate risk, including a balanced mix of cash and equity compensation and annual and long-term incentives; multiple performance measures with payouts subject to the compensation committee's overall assessment of performance; and equity compensation having a four-year vesting period and weighted more heavily towards restricted stock than stock options to provide greater incentive to create and preserve long-term stockholder value. Based on its evaluation, the compensation committee has determined, in its reasonable business judgment, that our compensation practices and policies for all employees do not encourage excessive risk and instead promote behaviors that support long-term sustainability and stockholder value creation.

We tie pay to performance. A significant portion of executive pay is not guaranteed. We set clear financial goals for corporate performance and differentiate based on individual achievement. We review how executive pay aligns with company financial performance.

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We mitigate undue risk, including the use of multiple performance factors in our non-equity incentive compensation plan, so that employees do not focus on a single financial measure and multiple-year vesting of our equity awards to support long-term shareholder value creation.

We have reasonable double trigger change in control provisions.

We have adopted stock ownership guidelines for our directors and executive officers, which significantly aligns their interests with our stockholders' interests.

We provide only modest perquisites.

Our compensation committee benefits from its utilization of an independent compensation consulting firm.

We do not have an executive retirement plan that provides extra benefits to our executive officers.

Our equity plan prohibits the repricing of options without stockholder approval.

We do not provide tax gross-ups to any of our executive officers.

We have no employment agreements or multi-year compensation guarantees for any of our named executive officers.

All employees are prohibited from engaging in hedging transactions in Medidata shares.

Equity Award Grant Policy

Under our equity award grant policy, grants made in conjunction with the hiring of a new employee or the promotion of an existing employee will be made on the first trading day of the month following the hire date or the promotion date. Under certain limited circumstances, our board of directors or compensation committee may approve grants that are exceptions to the policy. With respect to grants made to existing employees other than in connection with a promotion, such awards will be made on an annual basis. The Company's preference is for the annual grants to be made in the first quarter of the calendar year in order to align the annual awards with the determination of the prior year's financial results and performance reviews.

Stock Ownership Guidelines

In February 2013, our Board of Directors adopted new equity ownership guidelines for all of our executive officers to help ensure that we maintain close alignment between the interests of our executive officers and those of our stockholders. Under our equity ownership guidelines, our chief executive officer and president are expected to own shares of our common stock valued at five times his annual base salary, and each other executive officer is expected to own shares of our common stock valued at two times his or her annual base salary. This guideline is subject to a five year pro-rated phase in period for newly appointed executive officers. At the end of 2013, all of the named executive officers were in compliance with the equity ownership guidelines.

Clawback Discretion

The compensation committee reserves the right to reduce or withhold future compensation based on any required restatement or adjustment, and to determine the extent to which recovery of prior compensation may be pursued in the event of future adjustments caused by fraud on the part

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of an executive of Medidata. The compensation committee will adopt a policy that complies with the requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act when such rules are promulgated.

Tax Considerations

Section 162(m) places a limit of \$1.0 million on the amount of compensation we may deduct for federal income tax purposes in any one year with respect to our chief executive officer and certain other highly

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compensated officers, unless certain exemption requirements are met. Exemptions to this deductibility limit may be made for various forms of performance-based compensation. In general, our compensation committee is authorized to grant incentive awards under our 2009 Long-Term Incentive Plan that qualify for the performance-based compensation exemption from Section 162(m). While the compensation committee has not adopted a formal policy regarding tax deductibility of compensation paid to our named executive officers, the compensation committee intends to consider tax deductibility under Section 162(m) as a factor in compensation structure.

Compensation Committee Report

The material in this report shall not be deemed to be (i) soliciting material, (ii) filed with the SEC, (iii) subject to Regulations 14A or 14C of the Exchange Act, or (iv) subject to the liabilities of Section 18 of the Exchange Act. This report shall not be deemed incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent the company specifically incorporates it by reference into such filing.

The compensation committee has reviewed and discussed the Compensation Discussion and Analysis with management. Based upon such review, the related discussions and such other matters deemed relevant and appropriate by the compensation committee, the compensation committee recommended to the board of directors that the Compensation Discussion and Analysis be included in this proxy statement.

THE COMPENSATION COMMITTEE

Neil Kurtz (Chairman)

Carlos Dominguez

George McCulloch

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The following table provides information regarding the compensation of our chief executive officer, chief financial officer and each of the next three most highly compensated executive officers in the years ended December 31, 2013, 2012 and 2011. We refer to these officers as our named executive officers.

Name and Principal Position	Year	Salary (\$)	Option Awards(1) (\$)	Stock Awards(1)(2) (\$)	Non-Equity		Total (\$)
					Incentive Plan Compensation(3) (\$)	All Other Compensation(4) (\$)	
Tarek A. Sherif <i>Chairman and Chief Executive Officer</i>	2013	\$ 475,000	\$	\$ 5,343,927	\$ 1,076,615	\$ 5,100	\$ 6,900,642
	2012	435,000	450,005	1,350,000	492,893	5,000	2,732,898
	2011	423,000	400,007	1,200,009	388,121	4,900	2,416,037
Glen M. de Vries <i>President</i>	2013	475,000		5,343,927	1,076,615	5,100	6,900,642
	2012	435,000	450,005	1,350,000	492,893	5,000	2,732,898
	2011	423,000	400,007	1,200,009	388,121	4,900	2,416,037
Cory A. Douglas <i>Executive Vice President Chief Financial Officer</i>	2013	330,000		1,985,092	386,083	5,100	2,706,275
	2012	320,000	195,006(5)	585,021	265,830	5,004	1,370,861
	2011	246,719	541,910	187,506	148,000	29,158(6)	1,153,293
Steven I. Hirschfeld <i>Executive Vice President Chief Value Officer</i>	2013	325,000		2,545,168	628,206	5,100	3,503,474
	2012	309,000	205,007	615,004	415,359	5,000	1,549,370
	2011	300,000	156,259	468,766	255,000	4,900	1,184,925
Steven F. Wilhite <i>Executive Vice President Chief Marketing Officer</i>	2013	233,333	1,637,400(7)		227,195	104,667(8)	2,202,595

- (1) The dollar amounts shown for option awards, restricted stock awards and performance-based restricted stock units represent the aggregate grant date fair value computed in accordance with ASC 718. For information on the assumptions used to calculate the value of the awards, refer to Note 11 to consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2013, as filed with the Securities and Exchange Commission on February 24, 2014. With respect to the performance-based restricted stock units granted in 2013 that vest based on the satisfaction of one or more performance conditions, the grant date fair value is calculated on the probable outcome of the performance conditions as of the grant date. Certain long-term performance-based restricted stock units with performance conditions related to our compound annual revenue growth over the three-year period ending December 31, 2015 had a fair value of zero as of the grant date. Assuming the highest level of performance conditions will be achieved on or before December 31, 2015, the aggregate maximum fair value of all performance-based restricted stock units granted in 2013 would be the following amounts: Mr. Sherif- \$12,027,561; Mr. de Vries- \$12,027,561; Mr. Douglas- \$4,583,224; Mr. Hirschfeld- \$6,226,161; and Mr. Wilhite- \$3,150,066.
- (2) The increase in stock based compensation in 2013 is partially attributable to a one-time special TSR bonus award granted in February 2013 based upon the company's outstanding 2012 total stockholder return performance, which was granted to the named executive officers in the form of restricted stock awards in the following amounts: Mr. Sherif- \$1,878,297; Mr. de Vries- \$1,878,297; Mr. Douglas- \$598,885; and Mr. Hirschfeld- \$1,088,833.
- (3) Represents performance-based cash incentives.
- (4) Represents employer contribution to 401(k) plan unless noted otherwise.
- (5) Includes a special award of 60,000 options to Mr. Douglas granted in October 2011 outside of the annual grant process.
- (6) Includes a lump-sum payment of \$25,000 to Mr. Douglas for relocation related costs and expenses.

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(7) Includes a special new hire award to Mr. Wilhite of 120,000 options (on a post-split basis) granted in May 2013.

(8) Includes a lump-sum payment of \$100,000 to Mr. Wilhite for relocation related costs and expenses.

Note about the Summary Compensation Table: SEC disclosure rules require that the Summary Compensation Table include in each year the aggregate grant date fair value of all stock, option or other equity awards granted during that year, regardless of whether such awards were granted in recognition of prior-year performance or are subject to service- or performance-based vesting conditions. The equity awards data presented in the Summary Compensation Table is often very different from the actual realized and realizable/current values (if any amount is even earned) of such awards, and therefore the equity awards and total annual compensation data is not indicative of how the compensation committee views executive compensation for the corresponding year in its decision-making process. We encourage shareholders to review the Compensation Discussion and Analysis for a full discussion about executive compensation decisions for 2013.

Grants of Plan-Based Awards

The following table provides information regarding grants of plan-based awards to our named executive officers during the year ended December 31, 2013:

Name	Grant Date	Estimated Future Payouts Under Equity Incentive Plan Awards(1)(2)			All Other Stock Awards: Number of Shares of Stock or Units(1)	All Other Option Awards: Number of Securities Underlying Options(1)	Exercise or Base Price of Option Awards (\$/Sh)	Grant Date Fair Value of Stock and Option Awards(3)
		Threshold (#)	Target (#)	Maximum (#)				
Tarek A. Sherif	2/14/2013(4)		61,872	123,744			1,535,354	
	2/14/2013(5)		30,936	61,872			1,162,599	
	2/14/2013(6)		124,968	374,904				
	2/14/2013(7)				30,936		767,677	
	2/14/2013(8)				75,692		1,878,297	
Glen M. de Vries	2/14/2013(4)		61,872	123,744			1,535,354	
	2/14/2013(5)		30,936	61,872			1,162,599	
	2/14/2013(6)		124,968	374,904				
	2/14/2013(7)				30,936		767,677	
	2/14/2013(8)				75,692		1,878,297	
Cory A. Douglas	2/14/2013(4)		24,748	49,496			614,122	
	2/14/2013(5)		12,374	24,748			465,025	
	2/14/2013(6)		46,336	139,008				
	2/14/2013(7)				12,374		307,061	
	2/14/2013(8)				24,134		598,885	
Steven I. Hirschfeld	2/14/2013(4)		26,000	52,000			645,190	
	2/14/2013(5)		13,000	26,000			488,550	
	2/14/2013(6)		71,304	213,912				
	2/14/2013(7)				13,000		322,595	
	2/14/2013(8)				43,878		1,088,833	
Steven F. Wilhite	5/1/2013(6)		34,700	104,100				
	5/1/2013					120,000	33.13	1,637,400

- (1) Each stock option, restricted stock award and performance-based restricted stock unit was granted pursuant to our 2009 Long-Term Incentive Plan. The stock options to Mr. Wilhite vest 25% on the first anniversary of the grant date and in 36 equal monthly installments thereafter. The restricted stock awards vest 25% on each anniversary of the grant date. Performance-based restricted stock units vest either 1/3 on each anniversary of the grant date, or in full on December 31, 2015.
- (2) Represents the threshold, target and maximum number of shares that may be earned under the performance-based restricted stock units granted to the named executive officers in 2013 under our 2009 Long-Term Incentive Plan.

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- (3) The amounts in this column represent the aggregate grant date fair value, computed in accordance with ASC 718, of each stock option, restricted stock award and performance-based restricted stock unit granted to the named executive officer in 2013.
- (4) The performance period for these performance-based restricted stock units, which contain performance conditions related to our 2013 revenue and minimum profitability, ended on December 31, 2013.
- (5) The performance period for these performance-based restricted stock units, which contain performance conditions related to our 2013 total shareholder return relative to that of the NASDAQ composite index, ended on December 31, 2013.
- (6) The performance period for these long-term performance-based restricted stock units, which contain performance conditions related to our compound annual revenue growth, ends on December 31, 2015.
- (7) The restricted stock awards vest 25% on each anniversary of the grant date, subject to the executive's continued employment.
- (8) The restricted stock awards vested in full on December 31, 2013.

Outstanding Equity Awards at December 31, 2013

The following table provides information regarding option awards granted to our named executive officers that were outstanding at December 31, 2013:

Name	Grant Date	Number of Securities Underlying Unexercised Options Exercisable (#)	Option Awards		Option Exercise Price (\$)	Option Expiration Date
			Number of Securities Underlying Unexercised Options Unexercisable (#)			
Tarek A. Sherif	8/13/2008	73,460		(1)	\$ 9.88	8/13/2018
	6/24/2009	107,566		(2)	7.00	6/24/2019
	5/18/2010	67,240	7,818(2)		7.68	5/18/2020
	5/31/2011	45,404	24,896(2)		11.50	5/31/2021
	5/16/2012	28,570	43,604(2)		13.99	5/16/2022
Glen M. de Vries	8/13/2008	26,836		(1)	9.88	8/13/2018
	6/24/2009	107,566		(2)	7.00	6/24/2019
	5/18/2010	67,240	7,818(2)		7.68	5/18/2020
	5/31/2011	45,404	24,896(2)		11.50	5/31/2021
	5/16/2012	28,570	43,604(2)		13.99	5/16/2022
Cory A. Douglas	1/10/2008	2,000			6.04	11/13/2017
	5/18/2010	118	594(2)		7.68	5/18/2020
	5/31/2011	459	3,889(2)		11.50	5/31/2021
	10/01/2011	13,680	55,000(2)		8.22	10/01/2021
	5/16/2012	12,382	18,894(2)		13.99	5/16/2022
Steven I. Hirschfeld	5/18/2010	26,157	3,305(2)		7.68	5/18/2020
	5/31/2011	9,091	9,725(2)		11.50	5/31/2021
	5/16/2012	13,016	19,864(2)		13.99	5/16/2022
Steven F. Wilhite	5/1/2013		120,000(1)		33.13	5/1/2023

- (1) The shares underlying these option grants vest 25% on the first anniversary of the date of grant, and then 1/36 of the remainder per month after that date until the option is fully vested on the four (4) year anniversary of the grant date.
- (2) The shares underlying these option grants vest in 48 equal monthly installments commencing one month after the grant date.

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The following table provides information regarding stock awards granted to our named executive officers that were outstanding at December 31, 2013:

Name	Grant Date	Number of Shares or Units That Have Not Vested (#)	Stock Awards Market Value of Shares or Units of Stock That Have Not Vested (\$)	Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)
Tarek A. Sherif	5/18/2010	32,124(3)	\$ 1,943,502		\$
	5/31/2011	52,196(3)	3,157,858		
	5/16/2012	72,398(3)	4,380,079		
	2/14/2013	30,936(3)	1,871,628		
	2/14/2013	123,744(4)	7,486,512		
	2/14/2013	61,872(5)	3,743,256		
	2/14/2013			203,698(6)	12,323,729
Glen M. de Vries	5/18/2010	32,124(3)	1,943,502		
	5/31/2011	52,196(3)	3,157,858		
	5/16/2012	72,398(3)	4,380,079		
	2/14/2013	30,936(3)	1,871,628		
	2/14/2013	123,744(4)	7,486,512		
	2/14/2013	61,872(5)	3,743,256		
	2/14/2013			203,698(6)	12,323,729
Cory A. Douglas	5/18/2010	2,442(3)	147,741		
	5/31/2011	8,156(3)	493,438		
	5/16/2012	31,374(3)	1,898,127		
	2/14/2013	12,374(3)	748,627		
	2/14/2013	49,496(4)	2,994,508		
	2/14/2013	24,748(5)	1,497,254		
	2/14/2013			75,528(6)	4,569,444
Steven I. Hirschfeld	5/18/2010	13,582(3)	821,711		
	5/31/2011	20,390(3)	1,233,595		
	5/16/2012	32,982(3)	1,995,411		
	2/14/2013	13,000(3)	786,500		
	2/14/2013	52,000(4)	3,146,000		
	2/14/2013	26,000(5)	1,573,000		
	2/14/2013			116,226(6)	7,031,673
Steven F. Wilhite	5/1/2013			56,561(6)	3,421,941

- (3) The restricted stock awards vest 25% on each anniversary of the grant date, subject to the executive's continued employment.
- (4) The performance period for these performance-based restricted stock units, which contain performance conditions related to our 2013 revenue, ended on December 31, 2013. Share numbers are therefore based upon actual units earned. The shares underlying these performance-based restricted stock units vest 1/3 on each anniversary of the grant date, subject to the executive's continued employment.
- (5) The performance period for these performance-based restricted stock units, which contain performance conditions related to our 2013 total shareholder return relative to that of the NASDAQ composite index, ended on December 31, 2013. Share numbers are therefore based upon actual units earned. The shares underlying these performance-based restricted stock units vest 1/3 on each anniversary of the grant date, subject to the executive's continued employment.
- (6) The performance period for these long-term performance-based restricted stock units, which contain performance conditions related to our compound annual revenue growth, ends on December 31, 2015. Share numbers are based upon expected performance as of December 31, 2013. Shares earned will vest in full on December 31, 2015.

Table of Contents**Option Exercises and Stock Vested**

The following table sets forth information regarding options exercised by our named executive officers during 2013 and restricted stock awards that vested during 2013. The value realized for such options and restricted stock awards is also provided. For options, the value realized on exercise is equal to the difference between the market price of the underlying shares at exercise and the exercise price of the options. For stock awards, the value realized on vesting is equal to the market price of the underlying shares at vesting.

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$)
Tarek A. Sherif		\$	174,300	\$ 8,124,810
Glen M. de Vries			174,300	8,124,810
Cory A. Douglas	121,374	5,323,208	42,900	2,143,972
Steven I. Hirschfeld	48,482	2,449,497	89,430	4,295,443
Steven F. Wilhite				

Securities Authorized for Issuance under Equity Compensation Plans

The following table sets forth information regarding our equity compensation plans in effect as of December 31, 2013. Each of our equity compensation plans is an employee benefit plan as defined by Rule 405 of Regulation C of the Securities Act.

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options	(b) Weighted-Average Exercise Price of Outstanding Options	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column(a))
Equity compensation plans approved by security holders	2,669,809	\$ 16.00	1,951,349(1)
Equity compensation plans not approved by security holders			
Total	2,669,809	\$ 16.00	1,951,349(1)

- (1) The shares remaining available for future issuance are issuable under the 2009 LTIP. On June 24, 2009, when we completed our initial public offering and after stockholders approved our 2009 LTIP, we ceased granting new stock options under the Amended and Restated 2000 Option Plan.

Potential Payments upon Termination of Employment or a Change of Control**Change in Control Scenarios**

We have entered into change in control agreements with our chief executive officer and our other named executive officers. These agreements provide benefits based on a double trigger approach and only arise if there is an involuntary termination of employment during the severance protection period, which begins on the date a definitive transaction agreement is signed and ends two years after the date of a change in control. Payments will be due in the event the named executive officer's employment is involuntarily terminated by us without cause during the severance

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protection period or by the executive for good reason during the post-change in control protection period. These agreements provide that, upon a qualifying termination event, a named executive officer will be entitled to:

a pro rata payment of the annual incentive award the executive would have earned for the year of termination if the executive's employment had continued through the end of the year, based on the portion of the year elapsed prior to the date of termination;

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a lump sum severance payment equal to the sum of executive's base salary and target bonus (or prior year's bonus, if greater); and

continuing group health and life insurance coverage for 12 months.

The effect of a change in control on our equity-based awards will depend on whether the awards are subject to performance conditions or vest solely on the basis of continuing service. In general, an equity-based award that is not subject to performance conditions may be assumed (on an economically equivalent basis) by the acquiring or surviving company. The assumed award will be subject to substantially the same vesting and other terms and conditions of the original award, except that any previously unvested portion of the award will become fully vested if the acquiring or successor company terminates the executive's employment without cause within 24 months after the change in control. If the award is not so assumed by the acquiring or successor company, then it will become fully vested in connection with the change in control transaction.

In the case of our annual PBRsUs, if a change in control occurs during the one-year performance period, the performance measures will be applied to the short year ending prior to the change in control (subject to certain minimum performance assumptions). The number of earned PBRsUs as so determined will be fully vested. If the change in control occurs after the one-year performance period, then the unvested portion of the award will be treated much like other awards that vest solely on the basis of continuing service (that is, the awards may be assumed subject to accelerated vesting upon involuntary termination of employment within 24 months after the change in control and, to the extent not assumed, will become fully vest as part of the change in control).

In the case of our long-term PBRsUs, if a change in control occurs during the three-year performance period and the award is not assumed by the acquiring or successor company, some or all of the PBRsUs that otherwise could have been earned under the award will be deemed to have been earned and will be settled or paid out accordingly in connection with the change in control. The number of PBRsUs will be deemed to have been earned at the target level if the change in control occurs during the first year of the performance period. If the change in control occurs in the second or third year of the performance period, the number of PBRsUs deemed to have been earned will be based upon modified performance metrics applied to the portion of the performance period ending prior to the change in control.

Each named executive officer would have been entitled to the following estimated payments and benefits if a change in control occurred on December 31, 2013, and the executive's employment was terminated by us without cause during the severance protection period or by the executive for good reason during the post-change in control protection period:

Executive	Cash(1) (\$)	Welfare Benefits (\$)	Stock Options(2) (\$)	Restricted Stock(2) (\$)	Restricted	Total (\$)
					Stock Units(2) (\$)	
Tarek A. Sherif	1,576,615	24,475	3,660,873	11,353,067	18,790,338	35,405,368
Glen M. de Vries	1,576,615	15,285	3,660,873	11,353,067	18,790,338	35,396,178
Cory A. Douglas	726,083	24,475	3,976,096	3,287,933	7,295,102	15,309,689
Steven I. Hirschfeld	953,206	24,475	1,574,970	4,837,217	9,032,910	16,422,778
Steven F. Wilhite	577,195	15,846	3,284,400		2,099,350	5,976,791

- (1) The amount does not reflect a pro-rata bonus for 2013. This is because we are required to assume a termination date of December 31, 2013. On this date, each executive would have already earned a bonus for 2013 regardless of whether he terminated employment. Please refer to the Non-Equity Incentive Plan Compensation column of the Summary Compensation Table for the amount of the 2013 bonus paid to each executive.
- (2) Equity valuations are based on the following assumptions: (i) a closing price of our stock on December 31, 2013 of \$60.50; and (ii) the awards are not assumed in the corporate transaction, vest immediately prior to the change in control in accordance with the applicable award agreements and are cashed out.

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Our executives are not entitled to an excise tax gross-up with respect to their change-in-control payments and benefits. The payments and benefits will be reduced, however, in order to avoid excise tax if such reduction would enable the executives to net more on an after-tax basis than they would in the absence of a reduction. In any event, the executives would be personally responsible for the payment of any excise tax liability associated with any change in control payments and benefits.

Non-Change in Control Scenarios

In general, our executive officers are not entitled to severance payments or benefits upon termination of employment outside the context of a change in control (discussed above). Certain equity awards do, however, provide special rules in the event of certain terminations of employment. These are summarized below. Except as noted below, all unvested awards will be forfeited by an executive upon termination of the executive's employment.

Death or Disability

Our post-2012 restricted stock awards provide that unvested shares will become fully vested upon termination of an executive's employment due to the executive's death or disability. Our long-term PBRSU awards provide that, if an executive's employment terminates due to death or disability before the end of the three-year performance period, then the executive (or the executive's beneficiary) will be deemed to have earned a pro rata portion of the PBRsUs that would have been earned if the executive's employment had continued through the end of the performance period, based on the portion of the performance period elapsed prior to the executive's termination of employment. Our regular PBRSU awards provide that, if an executive's employment is terminated due to death or disability during the one-year performance period, then the executive will be deemed to have earned a pro rata portion of the PBRsUs that would have been earned if the executive's employment had not terminated (based upon the portion of the year elapsed at the time of the termination of employment), and all earned (or deemed earned) PBRsUs will become fully vested.

We would have provided each named executive officer or his beneficiary with the following estimated payments or benefits had he died or become disabled on December 31, 2013.

Executive	Life Insurance(1) (\$)	Disability Payments(2) (\$)	Restricted Stock(3) (\$)	Restricted	Total (\$)
				Stock Units(3) (\$)	
Tarek A. Sherif	300,000	247,000	1,871,628	14,985,571	17,404,199
Glen M. de Vries	50,000	247,000	1,871,628	14,985,571	17,154,199
Cory A. Douglas	300,000	247,000	748,627	5,884,354	7,179,981
Steven I. Hirschfeld	300,000	247,000	786,500	6,861,986	8,195,486
Steven F. Wilhite	300,000	247,000		857,242	1,404,242

- (1) Proceeds would be payable by a third-party insurer. Benefits provided upon death depend on the individual level of benefits chosen by the named executive officer during the annual benefits enrollment process. The named executive officers receive the same company-provided life insurance coverage as is generally offered to U.S.-based employees. The coverage is 100% of base salary for life insurance up to a maximum of \$300,000. Each U.S.-based employee has the option of choosing a higher level of coverage at his or her own expense.
- (2) Benefits provided upon disability generally depend on the individual level of benefits chosen by the named executive officer during the annual benefits enrollment process. The named executive officers receive the same short-term and long-term disability coverage as is generally offered to U.S.-based employees. The core coverage is (i) for short-term disability, 60% of base salary for 26 weeks up to a maximum of \$500 per week, and (ii) for long-term disability, 66.6% of base salary (up to a maximum monthly payment of \$9,000) for the duration of an employee's long-term disability. Each U.S. employee has the option of choosing a higher level of coverage at his or her own expense. The payments above assume maximum payout based on each named executive officer's coverage election for a period of 12 months.

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(3) Equity valuations are based on the following assumptions a closing price of our stock on December 31, 2013 of \$60.50.

Termination without Cause

If we terminate an executive's employment without cause during a three-year long-term PBRSU performance period, and if our actual performance level for the performance period is at least equal to the target level, then the executive will be deemed to have earned a pro rata portion of the PBRsUs that would have earned if the executive's employment had continued, determined on the basis of the portion of the performance period elapsed prior to the termination of the executive's employment.

We would have provided each named executive officer with the following estimated payments or benefits if we terminated an executive's employment without cause on December 31, 2013.

Executive	Restricted Stock Units(1) (\$)
Tarek A. Sherif	3,755,803
Glen M. de Vries	3,755,803
Cory A. Douglas	1,392,592
Steven I. Hirschfeld	2,142,986
Steven F. Wilhite	857,242

(1) Equity valuations are based on the following assumptions a closing price of our stock on December 31, 2013 of \$60.50.

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SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our directors, executive officers and persons who own more than ten percent of a registered class of our equity securities (collectively, the Reporting Persons) to file reports of ownership and changes in ownership with the SEC. Such persons are required by SEC regulations to furnish us with copies of all such filings.

Based solely on our review of copies of such filings, or written representations from Reporting Persons that all reportable transactions were reported, we believe that during 2013, the Reporting Persons timely filed all reports they were required to file under Section 16(a).

Table of Contents**COMMON STOCK OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT**

The following table sets forth certain information regarding the beneficial ownership of our common stock as of April 2, 2014 by:

each of our directors;

each of our named executive officers;

all our directors and executive officers as a group; and

each person or entity who is known by us to beneficially own 5% or more of our outstanding common stock.

The amounts and percentages of common stock beneficially owned are reported on the basis of regulations of the SEC governing the determination of beneficial ownership of securities. Under the rules of the SEC, a person is deemed to be a beneficial owner of a security if that person has or shares voting power, which includes the power to vote or to direct the voting of such security, or investment power, which includes the power to dispose of or to direct the disposition of such security. A person is also deemed to be a beneficial owner of any securities of which that person has a right to acquire beneficial ownership within 60 days. Under these rules, more than one person may be deemed a beneficial owner of the same securities and a person may be deemed a beneficial owner of securities as to which he has no economic interest. The number of shares of common stock outstanding used in calculating the percentage for each listed person includes the shares of common stock underlying options held by such person that are, or within 60 days will become, exercisable, but excludes shares of common stock underlying options held by any other person.

Except as indicated by footnote, the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them, subject to community property laws where applicable. Percentage of ownership is based on 55,645,870 shares of common stock outstanding on April 2, 2014.

Unless otherwise indicated below, each person or entity has an address in care of our principal executive offices at 350 Hudson Street, 9th Floor, New York, New York 10014.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned(2)	Percent
Named Executive Officers and Directors:		
Tarek A. Sherif(3)	1,161,781	2.1%
Glen M. de Vries(4)	1,272,105	2.3%
Cory A. Douglas(5)	148,217	*
Steven I. Hirschfeld(6)	114,093	*
Steven F. Wilhite(7)	36,238	*
Carlos Dominguez(8)	58,109	*
Neil M. Kurtz, M.D.(9)	52,291	*
George W. McCulloch(10)	49,288	*
Lee Shapiro(11)	20,110	*
Robert Taylor(12)	54,043	*
All Executive Officers and Directors as a group (15 persons)	3,238,842	5.8%
5% Stockholders:		
Brown Capital Management, LLC(13)	4,173,202	7.80%
BlackRock, Inc.(14)	4,505,938	8.4%

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Eagle Asset Management, Inc.(15)	3,344,982	6.25%
The Vanguard Group, Inc.(16)	3,280,128	6.12%

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- * Represents beneficial ownership of less than one percent (1.0%) of the outstanding common stock.
- (1) Shares shown in the table above include shares held in the beneficial owner's name or jointly with others, or in the name of a bank, nominee or trustee for the beneficial owner's account.
 - (2) For each of our executive officers and directors, the shares listed in this column include the following shares of restricted stock (which are subject to forfeiture and shall be automatically transferred back to the company upon termination or cessation of service if the vesting conditions have not been satisfied): 359,157 shares for Mr. Sherif; 359,157 shares for Mr. de Vries; 126,952 shares for Mr. Douglas, 162,491 shares for Mr. Hirschfeld; 49,651 shares for Mr. Wilhite; 0 shares for Mr. Dominguez; 0 shares for Dr. Kurtz; 0 shares for Mr. McCulloch; 2,039 shares for Mr. Shapiro; and 0 shares for Mr. Taylor.
 - (3) Includes 344,899 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (4) Includes 298,275 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (5) Includes 31,074 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (6) Includes 57,855 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (7) Includes 32,500 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (8) Includes 37,738 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (9) Includes 1,520 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (10) Includes 28,672 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (11) Includes 8,336 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (12) Includes 28,672 shares of common stock which may be acquired upon exercise of stock options that are exercisable or will become exercisable within 60 days of April 2, 2014.
 - (13) This information is based solely on a Schedule 13G/A filed with the SEC on February 13, 2014 by Brown Capital Management, LLC, which reported sole voting power and sole dispositive power with respect to 2,438,258 and 4,173,202 shares of common stock, respectively. The address of the principal business office for the reporting persons is 1201 N. Calvert Street, Baltimore, Maryland 21202.
 - (14) This information is based solely on a Schedule 13G/A filed with the SEC on January 30, 2014 by BlackRock, Inc., which reported sole voting power and sole dispositive power with respect to 2,438,258 and 4,173,202 shares of common stock, respectively. The address of the principal business office for the reporting person is 40 East 52nd St., New York, NY 10022.
 - (15) This information is based solely on a Schedule 13G/A filed with the SEC on January 13, 2014 by Eagle Asset Management, Inc., which reported sole voting power and dispositive power with respect to all of its shares of common stock. The address of the principal business office for the reporting person is 880 Carillon Parkway, St. Petersburg, Florida 33716.
 - (16) This information is based solely on a Schedule 13G/A filed with the SEC on February 2, 2014 by The Vanguard Group, Inc., which reported sole voting power and sole dispositive power with respect to 71,944 and 3,209,984 shares of common stock, respectively, and shared dispositive power with respect to 70,144 shares of common stock. The address of the principal business office for the investment manager is 100 Vanguard Blvd., Malvern, PA 19355.

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RELATED PERSON TRANSACTIONS

Policy and Procedure for Approval of Related Person Transactions

We require that all related party transactions, which includes transactions with directors, officers and holders of five percent or more of our voting securities and any member of the immediate family of and any entity affiliated with any of the foregoing persons, to be approved by our audit committee or another independent body of our board of directors. In approving or rejecting any such proposal, our audit committee (or other independent committee) is to consider the relevant facts and circumstances available and deemed relevant to the committee, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related party's interest in the transaction.

Transactions with Related Persons

Based on a review of the transactions and arrangements between the company and any related person or related person affiliate, we did not engage in any other transactions or series of similar transactions in which the amount involved exceeded \$120,000 and in which any of our directors or executive officers, any holder of more than 5% of any class of our voting securities or any member of the immediate family of any of the foregoing persons had a direct or indirect material interest.

Table of Contents**PROPOSAL 5****RATIFICATION OF APPOINTMENT OF****INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

Deloitte & Touche LLP served as our principal independent registered public accounting firm for the year ended December 31, 2013. Deloitte & Touche LLP has been appointed by the audit committee as the independent registered public accountant firm for us and our subsidiaries for the year ending December 31, 2014. This appointment is being presented to the stockholders for ratification. Representatives of Deloitte & Touche LLP are expected to be present at the Annual Meeting and will be provided an opportunity to make statements if they desire to do so and to respond to appropriate questions from stockholders.

Vote Required

If a quorum is present at the Annual Meeting, the ratification of the appointment of Deloitte & Touche LLP requires the affirmative vote of at least a majority of the votes cast on the matter.

Board Recommendation

Your board of directors recommends a vote FOR such ratification. If the stockholders fail to ratify the appointment of Deloitte & Touche LLP as our independent registered public accounting firm, it is not anticipated that Deloitte & Touche LLP will be replaced in 2014. Such lack of approval will, however, be considered by the audit committee in selecting our independent registered public accounting firm for 2015.

Fees Paid to Independent Registered Public Accounting Firm

The following table sets forth fees billed for professional audit services and other services rendered to the company by Deloitte & Touche LLP and its affiliates for the years ended December 31, 2013 and 2012.

	2013	2012
Audit Fees	\$ 968,000	\$ 1,653,000
Audit-Related Fees	143,000	89,000
Tax Fees	50,000	48,000
All Other Fees		
Total	\$ 1,161,000	\$ 1,790,000

Audit Fees. Audit fees for both years consisted of aggregate fees billed for professional services rendered for the audit of our consolidated annual financial statements, review of interim consolidated financial statements, consultations on accounting matters directly related to the audit, or services that are normally provided by the independent registered public accounting firm in connection with statutory and regulatory filings or engagements.

Audit-Related Fees. Audit-related fees consists of aggregate fees billed for accounting consultations and other services that were reasonably related to the performance of audits or reviews of our financial statements and were not reported above under Audit Fees.

All Other Fees. All other fees consists of aggregate fees billed for products and services provided by the independent registered public accounting firm other than those disclosed above. These fees consisted of amounts paid for the use of an online accounting research tool.

Audit Committee Report

The material in this report shall not be deemed to be (i) soliciting material, (ii) filed with the SEC, (iii) subject to Regulations 14A or 14C of the Exchange Act, or (iv) subject to the liabilities of Section 18 of the

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Exchange Act. This report shall not be deemed incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent the company specifically incorporates it by reference into such filing.

The audit committee operates under a written charter approved by the board of directors, that provides that its responsibilities include the oversight of the quality of the company's financial reports and other financial information and its compliance with legal and regulatory requirements; the appointment, compensation, and oversight of the company's independent registered public accounting firm, Deloitte & Touche LLP, including reviewing its independence; reviewing and approving the planned scope of the company's annual audit; reviewing and pre-approving any non-audit services that may be performed by Deloitte & Touche LLP; the oversight of the company's internal audit function; reviewing with management and the company's independent registered public accounting firm the adequacy of internal financial controls; and reviewing the company's critical accounting policies and estimates and the application of accounting principles generally accepted in the United States.

The audit committee oversees the company's financial reporting process on behalf of the board of directors. Management is responsible for the company's internal controls, financial reporting process, and compliance with laws and regulations and ethical business standards. Deloitte & Touche LLP is responsible for performing an independent audit of the company's consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). The audit committee's main responsibility is to monitor and oversee this process.

The audit committee reviewed and discussed our audited financial statements for the year ended December 31, 2013, with management. The audit committee discussed with Deloitte & Touche LLP the matters required to be discussed by Statement on Auditing Standards No. 61, as amended (Communication with Audit Committees). The audit committee has received the written disclosures and the letter from the independent accountant required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent accountant's communications with the audit committee concerning independence, and has discussed with the independent accountant the independent accountant's independence.

The audit committee considered any fees paid to Deloitte & Touche LLP for the provision of non-audit-related services and does not believe that these fees compromise Deloitte & Touche LLP's independence in performing the audit.

Based on the review and discussions referred to above, the audit committee recommended to the board of directors that such audited financial statements be included in the company's Annual Report on Form 10-K for the year ended December 31, 2013, for filing with the SEC.

THE AUDIT COMMITTEE

Robert B. Taylor (Chairman)

Neil M. Kurtz, M.D.

George McCulloch

Lee Shapiro

Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Auditors

The audit committee pre-approves all audit and non-audit services provided by our independent registered public accounting firm prior to the engagement of the independent registered public accounting firm with respect to such services. The audit committee shall pre-approve any additional audit services and permissible non-audit services.

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ADDITIONAL INFORMATION

Stockholder Proposals and Nominations

In order for a stockholder proposal to be considered for inclusion in the proxy statement for the 2015 annual meeting of stockholders, the written proposal must be received by the Corporate Secretary at the address below. The Corporate Secretary must receive the proposal no later than December 17, 2014. The proposal will also need to comply with the SEC's regulations under Rule 14a-8 regarding the inclusion of stockholder proposals in company sponsored proxy materials. Proposals should be addressed to:

Corporate Secretary

Medidata Solutions, Inc.

350 Hudson Street, 9th Floor

New York, New York 10014.

For a stockholder proposal that is not intended to be included in the proxy statement for the 2015 annual meeting of stockholders, or if you want to nominate a person for election as a director, you must provide written notice to the Corporate Secretary at the address above. The Secretary must receive this notice not earlier than January 28, 2015 and not later than February 27, 2015. However, if our 2015 annual meeting of stockholders is held more than 30 days before or more than 60 days after May 28, 2015, then the Secretary must receive this notice not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting or the 10th day following the day on which we make a public announcement of the date of the meeting. The notice of a proposed item of business must provide information as required in our bylaws which, in general, require that the notice include for each matter a brief description of the matter to be brought before the meeting; the reason for bringing the matter before the meeting; the text of the proposal or matter; your name, address, and number of shares you own beneficially or of record; and any material interest you have in the proposal.

The notice of a proposed director nomination must provide information and documentation as required in our bylaws which, in general, require that the notice of a director nomination include the information about the nominee that would be required to be disclosed in the solicitation of proxies for the election of a director under federal securities laws; the nominee's written consent to be named in the proxy statement as a nominee and to serve as a director if elected; a description of any transaction or arrangement during the last three years between the stockholder making the nomination and the nominee in which the nominee had a direct or indirect material interest; and a completed and signed questionnaire, representation and agreement. A copy of the bylaw requirements will be provided upon request to the Corporate Secretary at the address above.

Transaction of Other Business

Management does not intend to bring before the annual meeting any matters other than those disclosed in the notice of annual meeting of stockholders attached to this proxy statement, and it does not know of any business that persons other than management intend to present at the meeting. If any other matters are properly presented at the Annual Meeting for action, the persons named in the form of proxy and acting thereunder generally will have discretion to vote on those matters in accordance with their best judgment.

Annual Report on Form 10-K

Copies of our annual report on Form 10-K for the year ended December 31, 2013, as filed with the SEC, are available without charge to stockholders upon request to Investor Relations, at the principal executive offices of Medidata Solutions, Inc., 350 Hudson Street, 9th Floor, New York, New York 10014.

Incorporation by Reference

To the extent that this proxy statement is incorporated by reference into any other filing under the Securities Act or the Exchange Act, the sections of this proxy statement entitled "Compensation Committee Report" and

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Audit Committee Report (to the extent permitted by the rules of the SEC) will not be deemed incorporated unless specifically provided otherwise in such filing. Information contained on or connected to our website is not incorporated by reference into this proxy statement and should not be considered part of this proxy statement or any other filing that we make with the SEC.

Householding

The SEC's proxy rules permit companies and intermediaries, such as brokers and banks, to satisfy proxy delivery requirements with respect to two or more stockholders sharing the same address by delivering a single proxy mailing to those stockholders. This method of delivery, often referred to as householding, should reduce the amount of duplicate information that stockholders receive and lower printing and mailing costs for companies. Medidata and certain intermediaries are householding proxy materials for stockholders of record in connection with the Annual Meeting. This means that:

Only one proxy mailing will be delivered to multiple stockholders sharing an address unless you notify your broker or bank to the contrary;

You can contact Medidata by calling 212-918-1800 or by writing to Investor Relations, Medidata Solutions, Inc., 350 Hudson Street, 9th Floor, New York, New York 10014 to request a separate set of the proxy materials and for future meetings or, if you are currently receiving multiple copies, to receive only a single copy in the future or you can contact your bank or broker to make a similar request; and

You can request delivery of a single set of the proxy materials from your bank or broker if you share the same address as another Medidata stockholder and your bank or broker has determined to household proxy materials.

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Annex A

MEDIDATA SOLUTIONS, INC.

AMENDED AND RESTATED

2014 EMPLOYEE STOCK PURCHASE PLAN

1. **Purpose.** The purpose of the Medidata Solutions, Inc. Amended and Restated 2014 Employee Stock Purchase Plan (the **Plan**) is to provide eligible employees of Medidata Solutions, Inc. (the **Company**) and its Subsidiaries with a convenient way to purchase shares of the Company's common stock (the **Common Stock**). It is believed that participation in the Plan will incentivize employees to exert maximum efforts for the success of the Company and, in turn, enhance stockholder value. The Plan is intended to satisfy the requirements of Section 423 of the Internal Revenue Code of 1986 (the **Code**).

2. **Definitions.** Capitalized terms that are not otherwise defined in this document shall have the meanings ascribed to them below.

(a) **Account** means the bookkeeping account established in the name of a Participant to reflect the payroll deductions made and accumulated on his or her behalf for the purchase of Common Stock under the Plan.

(b) **Board** means the Board of Directors of the Company.

(c) **Committee** means the Compensation Committee of the Board or such other persons (including the Board) who may be appointed to administer the Plan pursuant to Section 3.

(d) **Common Stock** means the common stock of the Company, \$.01 par value per share.

(e) **Eligible Employee** means an Employee whose customary employment is more than twenty (20) hours per week. The Committee may establish additional or different eligibility conditions hereunder and/or under one or more sub-plans covering Employees who are subject to the laws of a foreign jurisdiction, provided that such conditions do not affect the qualified status of the Plan under Section 423 of the Code.

(f) **Employee** means an individual who performs services for a Participating Company in an employer-employee relationship. An individual who is a non-employee director or who is classified in the Participating Company's records as an independent contractor or leased employee shall not be an Employee for purposes of the Plan.

(g) **Fair Market Value** means, on any date, the closing price per share of the Company's Common Stock on the principal securities exchange on which such shares are traded or, if no shares are traded on that date, the closing price per share on the last preceding date on which such shares are traded.

(h) **Offer Date** means the date on which an Offering is made, which shall occur only on the first day of the Offering Period for such Offering.

(i) **Offering** means the grant of Purchase Rights under the Plan, which shall occur on the first day of each Offering Period.

(j) **Offering Period** means each period of time during which Purchase Rights granted pursuant to an Offering may be exercised, as described in Section 7.1 of the Plan.

(k) **Participant** means an Eligible Employee who participates in an Offering under the Plan and for whom a payroll deduction Account is maintained.

(l) **Participating Company** means the Company and any Subsidiary of the Company that is designated as a participating employer by the Committee.

(m) **Purchase Date** means, with respect to an Offering, each date during the Offering Period on which shares of Common Stock may be purchased pursuant to the exercise of a Purchase Right.

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(n) Purchase Period means, with respect to an Offering, the period of time from one Purchase Date to the next Purchase Date.

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- (o) **Purchase Right** means the right to purchase shares of Common Stock granted to a Participant pursuant to an Offering.
- (p) **Sale Event** means the occurrence of any of the following: (i) any person (within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended (Exchange Act)), other than the Company, any employee benefit plan of the Company, any entity owned directly or indirectly by the shareholders of the Company in substantially the same proportion as their ownership of stock of the Company or any person who becomes a beneficial owner directly or indirectly of securities of the Company pursuant to a transaction described in (ii) below, becomes the beneficial owner (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of securities of the Company (not including in the securities beneficially owned by such person any securities acquired directly from the Company or its affiliates) representing 50% or more of the combined voting power of the Company's then outstanding voting securities; or (ii) there shall have been consummated a consolidation, merger or reorganization of the Company, unless (1) the stockholders of the Company immediately before such consolidation, merger or reorganization own, directly or indirectly, at least a majority of the combined voting power of the outstanding voting securities of the corporation or other entity resulting from such consolidation, merger or reorganization, (2) individuals who were members of the Board immediately prior to the execution of the agreement providing for such consolidation, merger or reorganization constitute a majority of the board of directors of the surviving corporation or of a corporation directly or indirectly beneficially owning a majority of the voting securities of the surviving corporation, and (3) no person beneficially owns more than 50% of the combined voting power of the then outstanding voting securities of the surviving corporation (other than a person who is (A) the Company or a subsidiary of the Company, (B) an employee benefit plan maintained by the Company, the surviving corporation or any subsidiary, or (C) the beneficial owner of 50% or more of the combined voting power of the outstanding voting securities of the Company immediately prior to such consolidation, merger or reorganization); or (c) the stockholders of the Company approve the complete liquidation or dissolution of the Company, or a sale or other disposition of all or substantially all of the assets of the Company (other than to an entity described in (ii) above).
- (q) **Subsidiary** means a corporation 50% or more of the total combined voting power of which is owned directly or indirectly by the Company, as described in Section 424(f) of the Code.

3. **Administration.** The Plan shall be administered by the Committee. Subject to the provisions of the Plan, the Committee, acting in its sole and absolute discretion, will have full power and authority to interpret the provisions of the Plan, to establish the start dates and durations of future Offering Periods and the Purchase Date(s) within such Offering Periods, to determine which Subsidiaries will be designated as Participating Companies, to establish one or more sub-plans (including, without limitation, sub-plans intended to achieve certain tax or other objectives in locations outside the United States or to comply with local laws applicable to offerings in such foreign jurisdictions), to supervise the administration of the Plan, and to take such other action as it deems necessary or desirable in order to carry out the provisions of the Plan. All determinations and decisions made by the Committee in administering the Plan shall be final, conclusive, and binding on all persons. Subject to the requirements of applicable law, the Committee may delegate to any person or group or subcommittee of persons (who may, but need not be members of the Committee) such Plan-related functions within the scope of its responsibility, power and authority as it deems appropriate. The Company shall indemnify and hold harmless each member of the Committee and any employee or director of the Company or any Subsidiary to whom any duty or power relating to the administration or interpretation of the Plan is delegated from and against any loss, cost, liability (including any sum paid in settlement of a claim with the approval of the Board), damage and expense (including reasonable legal and other expenses incident thereto) arising out of or incurred in connection with the Plan, unless and except to the extent attributable to such person's fraud or willful misconduct.

4. **Enrollment and Participation.**

4.1 **General.** Any Eligible Employee may enroll in the Plan and participate in an Offering, provided that he or she is an Eligible Employee on the Offer Date and has been an Eligible Employee for at least ten days

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before such Offer Date (or for such other period of time, not to exceed two years, as the Committee may prescribe). No individual may become a Participant in an Offering on a date other than the first day of the Offering Period.

4.2 Enrollment. An Eligible Employee who desires to become a Participant may do so by enrolling in the Plan before the first day of an Offering Period in such manner (including by electronic signature) and in accordance with such procedures as the Committee may prescribe for this purpose.

4.3 Participation. A Participant may be enrolled for only one Offering at a time and may not participate in multiple Offerings at the same time within overlapping Offering Periods. If an Eligible Employee participates in an Offering and continues to be an Eligible Employee through the end of the Offering Period, then he or she will automatically participate in the next succeeding Offering without having to re-enroll. If a Participant receives a Purchase Right pursuant to one Offering and if, before the end of the Offering Period, he or she ceases to be a Participant (by reason of the Participant's withdrawal, termination of employment or otherwise), then he or she may not resume participation in that Offering. Such former Participant may, however, participate in a subsequent Offering, provided that he or she satisfies the applicable eligibility and enrollment requirements of the Plan before the Offer Date of such subsequent Offering.

4.4 Five Percent Shareholders. No Employee may be granted a Purchase Right under the Plan if, immediately after the grant of such Purchase Right, the Employee would own stock possessing 5 percent or more of the total combined voting power or value of all classes of stock of the Company or any Subsidiary. For this purpose, the rules of Section 424(d) of the Code will apply in determining an Employee's stock ownership, and stock which the Employee may purchase under any outstanding options (including outstanding Purchase Rights) will be treated as stock owned by the Employee.

4.5 Transfer to Related Corporation. In the event that an Employee leaves the employ of one Participating Company to become an Employee of another Participating Company, such Employee shall be deemed to continue as an Employee for all purposes of the Plan.

5. Common Stock Subject to Plan: Structure of the Plan.

5.1 Shares Reserved for Issue. Subject to Section 12, the Company may issue a total of 300,000 shares of Common Stock under the Plan (including any sub-plan established as part of the Plan) (such aggregate amount reflecting the effectiveness of a 2-for-1 stock split, effective on December 16, 2013). If the total number of shares for which Purchase Rights to be granted on any Offer Date exceeds the number of shares then available for issuance under the Plan or a given sub-plan (after deduction of all shares for which Purchase Rights have been exercised under the Plan or are then outstanding), the Company shall make a pro rata allocation of the shares remaining available in as nearly a uniform manner as is practicable and equitable. In such event, the payroll deductions to be made pursuant to the authorizations for the applicable Offering Period may be reduced accordingly and the Company shall give written notice of any such reduction to each affected Participant. Shares issued under this Plan may consist, in whole or in part, of authorized and unissued shares or treasury shares reacquired in private transactions or open market purchases. If any Purchase Rights granted under this Plan shall expire or terminate for any reason without having been exercised in full, the un-purchased shares subject thereto shall again be available for issuance under the Plan.

5.2 Plan Structure.

(a) This Plan document is an omnibus document which includes the primary Plan (the Statutory Plan) designed to permit offerings of grants to employees of Participating Companies where such offerings are intended to satisfy the requirements of Section 423 of the Code (although the Company makes no undertaking nor representation to obtain or maintain qualification under Section 423 for any Subsidiary, individual, offering or grant) and also separate sub-plans (each a Non-Statutory Plan) which permit offerings of grants to employees of Participating Companies (including certain Non-U.S. Subsidiaries) that are not intended to satisfy the requirements of Section 423 of the Code.

(b) The Statutory Plan shall be a separate and independent plan from the Non-Statutory Plan, provided, however, that the total number of shares authorized to be issued under the Plan applies in the aggregate to both

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the Statutory Plan and the Non-Statutory Plan. Offerings under the Non-Statutory Plan may be made to achieve desired tax or other objectives in particular locations outside the United States or to comply with local laws applicable to offerings in such foreign jurisdictions. Without limiting the generality of the foregoing, the Board and the Committee are specifically authorized to include in any Non-Statutory Plan such different terms and conditions as it deems appropriate under applicable local law requirements, including, without limitation, terms and conditions regarding eligibility to participate, the definition of compensation, the handling of payroll deductions, the establishment of bank or trust accounts or other funding vehicles to hold payroll deductions, the payment of interest, the conversion of local currency, and the determination or designation of beneficiaries of deceased Participants.

(c) The terms of the Statutory Plan shall be those set forth in this Plan document to the extent such terms are consistent with the requirements for qualification under Section 423 of the Code. The Committee may establish Non-Statutory Plans applicable to particular Participating Companies or locations that are not participating in the Statutory Plan. The terms of a Non-Statutory Plan may take precedence over other provisions in this document, with the exception of Section 5.1 of the Plan (relating to the total number of shares of Common Stock that may be issued under the Plan). Unless otherwise superseded by the terms of such Non-Statutory Plan, the provisions of this Plan document shall govern the operation of such Non-Statutory Plan. Except to the extent expressly set forth herein or where the context suggests otherwise, any reference herein to Plan shall be construed to include a reference to the Statutory Plan and the Non-Statutory Plan(s).

6. Payroll Deduction Elections. The purchase price of shares of Common Stock acquired by a Participant under the Plan will be paid with amounts withheld from the Participant's pay pursuant to the Participant's payroll deduction election(s) made in accordance with this Section.

6.1 General. As part of the enrollment process, an Eligible Employee must make a payroll deduction election, authorizing the Company to deduct a certain amount from each regular paycheck for the purchase of Common Stock under the Plan. Unless the Committee determines otherwise, the amount to be deducted from each regular paycheck pursuant to an Employee's payroll deduction election will be determined under the formula: $(A \times B) \div C$, where

A = the Employee's annual rate of base salary in effect at the time of the payroll deduction election,

B = the deduction percentage (not to exceed 50%) specified by the Employee, and

C = the number of regular pay periods in a year.

Once established, an Employee's per-pay-period payroll deduction election will remain in effect (subject to limitations under the Plan) unless and until the Employee changes his or her election or ceases to be a participant in Plan, as provided herein. The Committee may modify the rules and procedures applicable to payroll deduction elections at such time(s) and in such manner as it deems necessary or appropriate for the orderly administration of the Plan; provided, however, that no such action may be taken if it would cause the Plan to be in violation of Section 423(b)(5) of the Code (which provides that all Employees participating in the Plan must have equal rights and privileges). Notwithstanding the foregoing, (a) the total amount deducted from a Participant's compensation under the Plan shall not exceed \$21,250 in any calendar year, and (b) the amount that may be deducted from a Participant's compensation on any payroll date may not exceed the net amount of cash compensation otherwise payable to the Participant on such date, after taxes and other authorized payroll deductions. If a Participant has an unused Account balance immediately following the last Purchase Date of an Offering Period, such balance will be refunded to the Participant.

6.2 Effect of Election; New Elections. Once a payroll deduction election is in effect, it shall remain in effect unless and until it is revoked or modified. A payroll deduction election may be modified by the filing of a new payroll deduction election in the manner described in Section 6.1. A new payroll deduction election will become effective as soon as practicable after its receipt by the Company and will supersede all prior payroll deduction elections. Unless the Committee determines otherwise, only one rate reduction and one rate increase may be made by any Participant during any Purchase Period. A Participant may increase or decrease the rate of

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his or her payroll deductions for a subsequent Offering Period by filing a new payroll deduction election before the first day of such subsequent Offering Period, and any such new election will not be taken into account in determining the number of changes the Participant may make during any Purchase Period.

6.3 Participants' Accounts. The Committee will establish a bookkeeping Account or cause a bookkeeping Account to be established and maintained in the name of each Participant in order to reflect the amount of the Participant's payroll deductions made and accumulated under the Plan. Each Participant's Account will be credited with the amounts deducted from the Participant's compensation under the Plan and, on each Purchase Date, will be reduced by the purchase price paid for any shares of Common Stock acquired by the Participant on such date pursuant to the exercise of the Participant's Purchase Right. No interest or other earnings will be credited to the Participants' Accounts. The cash retained by the Company pursuant to a Participant's payroll deduction election(s) will be considered to be general assets of the Company and may be held or used by the Company as it deems appropriate. As and when a Participant's Account is charged for the purchase price of shares of Common Stock acquired upon the exercise of the Participant's Purchase Right(s), a like amount of the Participant's payroll deductions will be deemed to have been paid to the Company in exchange for such shares.

7. Terms and Conditions of Each Offering. Each Offering under the Plan will be made on the first day of an Offering Period and each purchase of shares of Common Stock pursuant to the exercise of a Purchase Right will be made on a Purchase Date, as described below.

7.1 Offering Periods and Purchase Dates. The first Offering Period under the Plan shall be the 24-month period beginning on January 1, 2014 and, unless the Committee determines otherwise, a new 24-month Offering Period will begin on each subsequent July 1 (starting July 1, 2014) and January 1. Each 24-month Offering Period will have four Purchase Dates, on June 30 and December 31 of each year during the Offering Period (e.g., June 30, 2014, December 31, 2014, June 30, 2015 and December 31, 2015 in the case of the first Offering Period under the Plan). The Committee may prescribe a different start date and/or duration for any future Offering Period, provided that no Offering Period shall have a duration of more than 27 months. The Committee may also establish different Purchase Dates within any future Offering Period, provided that each Offering Period must have at least one Purchase Date and the last day of each Offering Period must be a Purchase Date. The Committee will notify Eligible Employees of any change in future Offering Periods and Purchase Dates as soon as reasonably practicable prior to the scheduled beginning of the first Offering Period to be affected by such change.

7.2 Early Termination of Offering Periods. Unless the Committee determines otherwise, if the Fair Market Value per share of Common Stock on the first day of a new Offering Period is less than the Fair Market Value per share on the first day of an outstanding Offering Period, then (a) the earlier Offering Period shall be deemed to have terminated on the date immediately preceding the first day of such subsequent Offering Period, (b) the deemed termination date of the outstanding Offering Period will also be deemed to be a Purchase Date, (c) the Purchase Right held by each Participant will be exercised on such deemed Purchase Date in accordance with its terms and the terms of the Plan for the exercise of a Purchase Right generally, and (d) the Participant will be automatically enrolled in the new Offering on the first day of such new Offering Period.

7.3 Purchase Rights. An Eligible Employee who participates in an Offering will receive a Purchase Right on the first day of the Offering Period. Each Purchase Right will permit the Employee/Participant to purchase shares of Common Stock on each Purchase Date within the Offering Period for a purchase price per share equal to the lesser of 85% of the Fair Market Value per share of Common Stock on the first day of the Offering Period, or 85% of the Fair Market Value per share on the Purchase Date. Except as otherwise provided herein, the number of shares of Common Stock that may be purchased by a Participant on any Purchase Date pursuant to the exercise of a Purchase Right will be equal to the amount accumulated in the Participant's payroll deduction Account on such Purchase Date divided by the purchase price per share determined in accordance with the above formula, rounded down to the nearest whole number. Notwithstanding the foregoing, (a) unless the Committee prescribes a different maximum number with respect to an Offering, no more than 2,500 shares of Common Stock may be covered by a Purchase Right granted to any Participant pursuant to such Offering, and (b) no Participant may be permitted to purchase shares of stock under all qualified employee stock purchase

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plans of the Company and its Subsidiaries (including the Plan) at a rate that exceeds \$25,000 in fair market value of the stock (determined at the time the purchase rights are granted) for any calendar year in which any such purchase right granted to the Participant is outstanding at any time, determined in accordance with Section 423(b)(8) of the Code and the regulations issued thereunder.

7.4 Purchase of Shares. Except as otherwise provided and subject to the limitations contained herein, a Participant's Purchase Right will be exercised on each Purchase Date within an Offering Period for the number of whole shares determined by dividing the amount then credited to the Participant's Account by the applicable purchase price per share determined under Section 7.3 above. An amount equal to the aggregate purchase price of the shares being acquired will then be charged against the Participant's Account, and a corresponding amount of the Participant's payroll deductions will be deemed to have been paid to the Company in full payment of such purchase price. The Company shall issue the purchased shares to the Participant (in certificated or book entry form) as soon as practicable after the Purchase Date. The Committee may permit or require that the purchased shares be deposited for the Participant's account with a broker or agent designated by the Committee. The Committee may require that some or all of such shares be retained by such broker or agent for a designated period of time and/or may establish other procedures as it deems appropriate in connection with the administration of the Plan. The shares acquired pursuant to the exercise of a Purchase Right will be fully paid and non-assessable.

7.5 Withdrawal. Each Participant may withdraw from the Plan during an Offering Period by providing written notice to the Committee (at such time and in such form and manner as the Committee may prescribe) of his or her election to withdraw. A Participant's withdrawal will become effective as soon as practicable following receipt of such withdrawal notice by the Company, at which time the Participant's payroll deduction election will be canceled and the balance credited to the Participant's Account (to the extent not previously applied to the purchase of Common Stock, and, if the withdrawal is effective on or within ten days before a Purchase Date, to the extent not applied to the purchase of Common Stock on such Purchase Date) will be refunded to the Participant, without interest, in full and final satisfaction of the Participant's interest in the Plan. A Participant who withdraws from the Plan during one Offering Period may not resume his or her participation within the same Offering Period, but he or she may re-enroll in the Plan for a new Offering beginning on the first day of any subsequent Offering Period, subject to the same eligibility and other conditions and the same enrollment procedures as are applicable to any other person who desires to enroll in the Plan.

7.6 Termination of Employment. An individual's participation in the Plan will automatically terminate and any outstanding Purchase Right held by such individual will be automatically cancelled if he or she ceases to be employed by a Participating Company (regardless of the reason therefor). Upon or as soon as practical after such termination, the balance credited to the Participant's Account (to the extent not previously applied to the purchase of Common Stock, and, if the termination is effective on or within ten days prior to a Purchase Date, to the extent not applied to the purchase of Common Stock on such Purchase Date) will be distributed, without interest, to the Participant (or, if applicable, the Participant's beneficiary) in full and final satisfaction of the Participant's (or beneficiary's) interest in the Plan.

7.7 Nontransferable Rights. All Purchase Rights acquired pursuant to the Plan shall be nontransferable, except by will or the laws of descent and distribution, and shall be exercisable during the lifetime of a Participant only by the Participant.

7.8 Other Terms and Conditions. Purchase Rights granted under the Plan shall be subject to the terms and conditions set forth herein, and to such other terms and conditions not inconsistent herewith as the Committee may deem appropriate, provided that, except as otherwise permitted or required by applicable law, such terms and conditions shall be identical for each Participant granted Purchase Rights pursuant to any particular Offering under the Statutory Plan or any Non-Statutory Plan, as the case may be.

7.9 Registration of Shares. Notwithstanding anything to the contrary contained herein, no Purchase Rights granted under the Plan may be exercised to any extent unless the shares of Common Stock to be issued upon such exercise are covered by an effective registration statement pursuant to the Securities Act of 1933, as amended (the Securities Act) and the Plan is in material compliance with all applicable laws. If on any

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Purchase Date, the shares of Common Stock are not so registered or the Plan is not in such compliance, no Purchase Rights granted under the Plan shall be exercised on such Purchase Date, and the Purchase Date shall be delayed until the shares of Common Stock are subject to such an effective registration statement and the Plan is in material compliance, except that the Purchase Date shall in no event be more than twenty-seven (27) months from the commencement of the Offering Date. If on the Purchase Date, as delayed to the maximum extent permissible, the shares of Common Stock are not registered and the Plan is not in material compliance with all applicable laws, no Purchase Rights shall be exercised and all accumulated but unused payroll deductions shall be refunded to the Participants, without interest.

8. Tax Withholding. To the extent any (i) grant of a Purchase Right, (ii) purchase of shares, or (iii) disposition of shares purchased under the Plan gives rise to any tax withholding obligation (including, without limitation, income and payroll withholding taxes imposed by any jurisdiction) the Committee may implement appropriate procedures to ensure that such tax withholding obligations are met. Those procedures may include, without limitation, withholding amounts credited to a Participant's Account, increased withholding from an employee's current compensation, cash payments to the Company or another Participating Company by the Participant, or a sale of a portion of the stock purchased under the Plan, which sale may be required and initiated by the Company.

9. Equal Rights and Privileges. Notwithstanding anything to the contrary contained herein, all Participants granted Purchase Rights under any Offering shall have the same rights and privileges, except (a) the amount of Common Stock which may be purchased by any Participant pursuant to such Purchase Rights may bear a uniform relationship to the Participant's total compensation, or his or her basic or regular rate of compensation, and (b) no Participant may purchase more than the maximum amount of Common Stock permitted by the Plan or applicable law. The provisions of this Section are intended to reflect the requirements of Section 423(b)(5) of the Code, and such provisions will be interpreted, construed and administered accordingly.

10. Stock Issuance and Rights as Stockholder. Notwithstanding any other provisions of the Plan, no Participant shall have any rights of a stockholder (including the right to vote and receive dividends) with respect to shares of Common Stock covered by Purchase Rights granted under the Plan unless and until such shares have been purchased and delivered to him or her in accordance with the provisions hereof.

11. Beneficiary Designation. A Participant may designate a beneficiary who will receive any shares of Common Stock and/or unused cash credited to the Participant's Account in the event of such Participant's death subsequent to the end of a Purchase Period but prior to delivery of such shares and/or cash to the Participant. Such designation may be made by delivering a written beneficiary designation to the Committee (or its designee) in such form and in such manner as the Committee (or its designee) may prescribe for this purpose. Each beneficiary designation duly filed with the Committee (or its designee) will have the effect of superseding and revoking any prior beneficiary designation. If a Participant does not designate a beneficiary or if no designated beneficiary survives the Participant, then the Participant's beneficiary will be deemed to be his or her surviving spouse, if any, or, if there is no such surviving spouse, the Participant's estate.

12. Adjustments Upon Changes in Capitalization or Sale Event.

12.1 Capital Changes. In the event of reorganization, recapitalization, stock split, stock dividend, combination of shares, merger, consolidation, offering of rights, or any other change in the structure of the Company's Common Stock, the Committee may make such adjustment, if any, as it may deem appropriate in the number and class of shares that may be issued under the Plan, the maximum number of shares that may be purchased during any Offering Period or calendar year, and the number and class of shares and the purchase price per share covered by Purchase Rights that are then outstanding under the Plan. Such adjustments may include, without limitation, closing an Offering Period or Purchase Period early and permitting purchase on the last business day of the shortened Offering Period or Purchase Period, or terminating an offering and refunding Participants' Account balances.

12.2 Sale Event. If a Sale Event occurs, the Board or Committee may permit the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) to assume and continue

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outstanding Purchase Rights or to substitute similar rights (including a right to acquire the same consideration paid to the stockholders in the Sale Event) for outstanding Purchase Rights, in either case on an economically equivalent basis. If outstanding Purchase Rights are not so assumed, continued or substituted, then, unless the Committee or the Board determines otherwise, the balance of each Participant's Account will be applied to purchase shares of Common Stock within ten business days prior to the date of the Sale Event pursuant to automatic exercise of such Participant's outstanding Purchase Rights in full and final satisfaction of such Participant's interest in the Plan, and the shares so acquired will be entitled to participate in the Sale Transaction on the same basis as other holders of the Company's Common Stock, provided that any such automatic exercise of Purchase Rights will be subject to the applicable limitations and provisions that would otherwise be applicable and provided further that any amounts remaining in the Participant's Account after such automatic exercise of the Participant's Purchase Rights shall be distributed to the Participant in cash on or as soon as practicable (but not more than five business days) after the consummation of such Sale Event.

12.3 Committee or Board Determination Conclusive. All adjustments under this Section 12 shall be made by the Committee or the Board as constituted immediately prior to the capital change or Sale Event, as the case may be, and the Committee's or Board's determination as to what adjustments shall be made, and the extent thereof, shall be binding and conclusive.

12.4 Reservation of Rights. The grant of a Purchase Right pursuant to this Plan shall not affect in any way the right or power of the Company to make adjustments, reclassifications, reorganizations or changes of its capital or business structure or to merge or consolidate or to dissolve, liquidate, sell or transfer all or any part of its business or assets.

13. Securities Law Requirements.

13.1 Investment Representations. The Company may require a Participant as a condition of the grant and/or exercise of a Purchase Right, to represent and establish to the satisfaction of the Company that all shares of Common Stock to be acquired pursuant to such grant and exercise will be acquired for investment and not for resale. The Company may cause such legends to be placed on certificates evidencing any such shares as, in the opinion of the Company's counsel, may be required by federal and applicable state securities laws.

13.2 Compliance with Applicable Securities Laws. No shares of Common Stock shall be issued to a Participant under the Plan unless and until counsel for the Company determines that: (i) the Company and the Participant have satisfied all applicable requirements under the Securities Act of 1933, as amended, and the Exchange Act; (ii) any applicable requirement of any stock exchange or quotation system on which the Company's Common Stock is listed or quoted has been satisfied; and (iii) all other applicable provisions of state and federal law have been satisfied.

14. Amendment. The Committee and the Board shall have the right at any time and without notice to amend, modify, suspend or terminate the Plan, provided that no Participant's existing rights under any outstanding Offering made under the Plan may be adversely affected thereby; and provided further that, except as permitted by Section 12 (relating to adjustments for capital changes and Sale Events), stockholder approval shall be required for any amendment if and to the extent such approval is required by Section 423 of the Code or other applicable law or listing requirements (including, as applicable, any amendment that would (i) increase the number of shares of Common Stock issuable under the Plan, or (ii) change the class of persons eligible to participate in the Plan).

15. Termination. Unless sooner terminated by the Board or the Committee, the Plan will automatically terminate on the earlier of the issuance of all the shares of Common Stock that may be issued under the Plan, or the date which is ten years from the date the Plan was adopted by the Board.

16. Reservation of Shares. The Company will at all times during the term of this Plan reserve and keep available such number of shares of its Common Stock as shall be sufficient to satisfy the requirements of the Plan.

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17. No Rights Conferred. Neither the Plan nor an individual's participation in the Plan shall interfere with or limit in any way the right of a Participating Company to terminate or modify the terms and conditions of such individual's employment at any time or otherwise confer upon such individual a right to continue in the employ of such Participating Company.

18. Use of Funds. All payroll deductions received or held by the Company under the Plan may be used by the Company for any corporate purpose, and the Company shall not be obligated to segregate such payroll deductions.

19. Governing Law. The Plan shall be governed by the laws of the State of Delaware without regard to its conflicts of law provisions.

20. Effective Date. This Plan was adopted by the Board of Directors of the Company on November 7, 2013. The Plan will be effective as of January 1, 2014, provided, however, that no shares of Common Stock may be issued under the Plan unless the Plan is approved by the Company's stockholders at the 2014 Annual Stockholders Meeting, and provided further that the Plan will automatically terminate and be of no force or effect on the date of such Annual Meeting if the Plan is not so approved.

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Annex B

**CERTIFICATE OF AMENDMENT
OF
FOURTH AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
MEDIDATA SOLUTIONS, INC.**

Medidata Solutions, Inc. (the Corporation), a corporation organized and existing under the General Corporation Law of the State of Delaware, hereby certifies as follows:

FIRST: This Certificate of Amendment amends the provisions of the Corporation's Fourth Amended and Restated Certificate of Incorporation filed with the Secretary of State on June 30, 2009 (the Certificate).

SECOND: The first paragraph of Article IV of the Certificate is hereby amended and restated in its entirety as follows:

This Corporation is authorized to issue two classes of stock to be designated, respectively, Common Stock and Preferred Stock. The total number of shares of stock which the Corporation shall have the authority to issue is two hundred five million (205,000,000). The total number of shares of Common Stock that the Corporation is authorized to issue is two hundred million (200,000,000), with a par value of \$0.01 per share. Each share of Common Stock shall entitle the holder thereof to one (1) vote on each matter submitted to a vote at any meeting of stockholders. The total number of shares of Preferred Stock that the Corporation is authorized to issue is five million (5,000,000), with a par value of \$0.01 per share.

THIRD: The aforesaid amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

FOURTH: That the remaining provisions of the Certificate, including without limitation the provisions of Article IV of the Certificate not affected by the aforementioned amendment, shall remain in full force and not be affected by this Certificate of Amendment.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be executed as of this 28th day of May, 2014.

Medidata Solutions, Inc.

By:
Tarek A. Sherif
Chairman and Chief Executive Officer

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VOTE BY INTERNET

**MEDIDATA SOLUTIONS,
INC.**

**350 HUDSON STREET,
9TH FLOOR**

NEW YORK, NY 10014

Before The Meeting - Go to www.proxyvote.com

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 P.M. Eastern Time the day before the meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

During The Meeting - Go to www.virtualshareholdermeeting.com/medidata2014

You may attend the Meeting on May 28, 2014 at 10:00 A.M. EDT via the Internet and vote during the Meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions up until 11:59 P.M. Eastern Time the day before the meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

M72536-P50662

KEEP THIS PORTION FOR YOUR RECORDS

DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

MEDIDATA SOLUTIONS, INC.	For All	Withhold All	For All Except	To withhold authority to vote for any individual nominee(s), mark For All Except and write the number(s) of the nominee(s) on the line below.
The Board of Directors recommends you vote FOR the following:	

1. Election of Directors

Nominees:

- | | |
|----------------------|-------------------------|
| 01) Tarek A. Sherif | 05) George W. McCulloch |
| 02) Glen M. de Vries | 06) Lee A. Shapiro |
| 03) Carlos Dominguez | 07) Robert B. Taylor |
| 04) Neil M. Kurtz | |

The Board of Directors recommends you vote FOR proposals 2, 3, 4 and 5.	For	Against	Abstain
2. To approve, on an advisory basis, executive compensation (the say on pay vote).
3. To approve our Amended and Restated 2014 Employee Stock Purchase Plan.
4. To amend the Charter to increase the authorized number of shares of common stock by 100,000,000 shares, to a total of 200,000,000 shares.
5. To ratify the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for the year ending December 31, 2014.

NOTE: In their discretion, proxies are authorized to transact such other business as may properly come before the meeting or any adjournment or postponement thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

Signature [PLEASE SIGN WITHIN BOX] Date

Signature (Joint
Owners) Date

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Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:

The Notice and Proxy Statement and Annual Report are available at www.proxyvote.com.

M72537-P50662

MEDIDATA SOLUTIONS, INC.

Annual Meeting of Stockholders

May 28, 2014 10:00 A.M. EDT

This proxy is solicited by the Board of Directors

The stockholder(s) hereby appoint(s) Tarek Sherif and Cory Douglas, or either of them, as proxies, each with the power to appoint his substitute, and hereby authorizes them to represent and to vote, as designated on the reverse side of this ballot, all of the shares of common stock of Medidata Solutions, Inc. that the stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders of Medidata Solutions, Inc. to be held via live webcast at www.virtualshareholdermeeting.com/medidata2014 on Wednesday, May 28, 2014 at 10:00 A.M. EDT and any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations.

Continued and to be signed on reverse side

