

Sherif Tarek
 Form 4
 November 22, 2010

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 Sherif Tarek

2. Issuer Name and Ticker or Trading Symbol
 Medidata Solutions, Inc. [MDSO]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)
 C/O MEDIDATA SOLUTIONS, INC., 79 FIFTH AVENUE, 8TH FLOOR

3. Date of Earliest Transaction (Month/Day/Year)
 11/18/2010

Director 10% Owner
 Officer (give title below) Other (specify below)
 Chairman & CEO

(Street)
 NEW YORK, NY 10003

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|---|
| | | | Code | V | Amount (A) or (D) Price | | |
| Common Stock | 11/18/2010 | | S | | 3,000 (1) | D | |
| Common Stock | 11/19/2010 | | S | | 14,998 (1) | D | |
| | | | | | \$ 19.2635 (2) | | |
| | | | | | 1,147,258 | D | |
| | | | | | 1,132,260 | D | |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474
 (9-02)

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Securities (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of Derivative Securities Owned Following Transaction (Instr. 5) |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|---|
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|---|

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|----------------|-------|
| | Director | 10% Owner | Officer | Other |
| Sherif Tarek C/O MEDIDATA SOLUTIONS, INC. 79 FIFTH AVENUE, 8TH FLOOR NEW YORK, NY 10003 | X | | Chairman & CEO | |

Signatures

/s/ Michael I. Otner,
Attorney-in-Fact

11/22/2010

__Signature of Reporting Person

Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 4(b)(v).
 - ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) The sale reported in this Form 4 was effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on November 11, 2010.
- Such transaction was executed in multiple trades at prices ranging from \$19.05 to \$19.485. The price reported reflects the weighted average sale price. The reporting person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer full information regarding the number of shares and prices at which the transaction was effected.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.