UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

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

Date of report (Date of earliest event reported): October 21, 2011

Mercury Computer Systems, Inc.

(Exact Name of Registrant as Specified in Charter)

Massachusetts (State or Other Jurisdiction of Incorporation) 000-23599 (Commission File Number) 04-2741391 (IRS Employer Identification No.)

201 Riverneck Road, Chelmsford, Massachusetts (Address of Principal Executive Offices) 01824 (Zip Code)

Registrant's telephone number, including area code: (978) 256-1300

Not Applicable

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Dere-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

Election of Class II Directors

At the Annual Meeting of Shareholders held on October 21, 2011 (the "Annual Meeting"), Messrs. Mark Aslett, George W. Chamillard, and William K. O'Brien were elected as Class II Directors for a three-year term ending in 2014.

2005 Stock Incentive Plan

At the Annual Meeting, shareholders approved an amendment and restatement of the Company's 2005 Stock Incentive Plan (the "2005 Plan") that increases the aggregate number of shares issuable under the plan by 1,000,000 shares. A summary of the material terms and conditions of the amended and restated 2005 Plan is set forth in the Company's Definitive Proxy Statement, filed with the Securities and Exchange Commission on September 19, 2011(the "Proxy Statement"), under the caption "Proposal 2: Approval of Amendment and Restatement of Mercury Computer Systems, Inc. 2005 Stock Incentive Plan – Summary of the Amended and Restated 2005 Plan." Such description is incorporated herein by reference and is qualified in its entirety by reference to the full text of the amended and restated 2005 Plan, which is filed as Exhibit 10.1 to this Current Report on Form 8-K.

1997 Employee Stock Purchase Plan

At the Annual Meeting, shareholders approved an amendment and restatement of the Company's 1997 Employee Stock Purchase Plan (the "ESPP") that increases the aggregate number of shares issuable under the plan by 300,000 shares. A summary of the material terms and conditions of the amended and restated ESPP is set forth in the Proxy Statement under the caption "Proposal 3: Approval of Amendment and Restatement of Mercury Computer Systems, Inc. 1997 Employee Stock Purchase Plan – Summary of the ESPP." Such description is incorporated herein by reference and is qualified in its entirety by reference to the full text of the amended and restated ESPP, which is filed as Exhibit 10.2 to this Current Report on Form 8-K.

Item 5.07 Submission of Matters to a Vote of Security Holders.

On October 21, 2011, the Company held its Annual Meeting. The final voting results for the Annual Meeting are as follows:

1. Election of Class II Directors:

Mr. Mark Aslett	
For:	25,794,257
Withheld:	529,826
Broker Non-Votes:	2,305,265
Mr. George W. Chamillard	
For:	25,217,329
Withheld:	1,106,754
Broker Non-Votes:	2,305,265
Mr. William K. O'Brien	
For:	25,704,738
Withheld:	619,345
Broker Non-Votes:	2,305,265

2. Amendment and restatement of the 2005 Stock Incentive Plan:

For:	20,041,386
Against:	6,279,697
Abstain:	3,000
Broker Non-Votes:	2,305,265

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3. Amendment and restatement of the 1997 Employee Stock Purchase Plan:

For:	26,121,925
Against:	198,146
Abstain:	4,012
Broker Non-Votes:	2,305,265

4. Advisory vote to approve the compensation of the Company's named executive officers for fiscal year 2011:

For:	25,326,005
Against:	799,057
Abstain:	199,021
Broker Non-Votes:	2,305,265

5. Advisory vote on holding future say-on-pay votes:

1 Year:	23,956,133
2 Years:	89,739
3 Years:	2,075,921
Abstain:	202,290
Broker Non-Votes:	2,305,265

6. Ratification of KPMG LLP as independent registered public accounting firm for the fiscal year ending June 30, 2012:

For:	28,561,275
Against:	43,823
Abstain:	24,250
Broker Non-Votes:	0

Item 8.01 Other Events.

The Company's Board of Directors held a meeting at which it elected Vincent Vitto as Chairman of the Board and determined the composition of the Board committees for the upcoming year. The committees of the Board will be constituted as follows:

Audit Committee: William K. O'Brien (Chairman), James K. Bass, and Lee C. Steele.

Compensation Committee: George W. Chamillard (Chairman), Michael A. Daniels, and George K. Muellner.

Nominating and Governance Committee: Vincent Vitto (Chairman), William K. O'Brien, and Lee C. Steele.

Ad Hoc M&A Review Committee: George K. Muellner (Chairman), Michael A. Daniels, William K. O'Brien, and James K. Bass (Alternate).

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit

 No.
 Description

 10.1
 Mercury Computer Systems, Inc. Amended and Restated 2005 Stock Incentive Plan (incorporated herein by reference to Appendix A to Mercury Computer Systems, Inc.'s Definitive Proxy Statement filed with the Securities and Exchange Commission on September 19, 2011)

10.2 Mercury Computer Systems, Inc. Amended and Restated 1997 Employee Stock Purchase Plan (incorporated herein by reference to Appendix B to Mercury Computer Systems, Inc.'s Definitive Proxy Statement filed with the Securities and Exchange Commission on September 19, 2011)

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Dated: October 21, 2011

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Robert E. Hult

Robert E. Hult Senior Vice President, Chief Financial Officer, and Treasurer

EXHIBIT INDEX

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