
**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): September 14, 2009

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 01824
(Address of Principal Executive Offices) (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))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 5.03 Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

On September 14, 2009, the Board of Directors of Mercury Computer Systems, Inc. (the "Company") approved an amendment to Section 3.1 of the Company's By-Laws, which amendment was effective immediately. The amendment permits the Board of Directors to determine the date and time of the annual meeting of stockholders. The full text of the amendment is attached hereto as Exhibit 3.1 and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
3.1	Amendment to By-Laws of Mercury Computer Systems, Inc. dated September 14, 2009.

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: September 14, 2009

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Alex A. Van Adzin

Alex A. Van Adzin

Vice President, General Counsel, and Corporation Secretary

Exhibit Index

<u>Exhibit No.</u>	<u>Description</u>
3.1	Amendment to By-Laws of Mercury Computer Systems, Inc. dated September 14, 2009

**Amendment to By-Laws of
Mercury Computer Systems, Inc.**

On September 14, 2009, the Board of Directors of Mercury Computer Systems, Inc., a Massachusetts corporation (the "Company"), amended the Company's By-Laws by deleting the first and second paragraphs of Section 3.1 in their entirety and replacing such paragraphs with the following:

"The annual meeting of the stockholders shall be held on such date and at such time as shall be determined by the Board of Directors each year, which date and time may subsequently be changed at any time, including the year in which any such determination occurs. Purposes for which an annual meeting is to be held, additional to those prescribed by law and by these By-Laws, may be specified by the President or by the Directors."