

**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): January 21, 2008**

**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.)

**199 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))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

**Item 5.03 Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year**

On January 21, 2008, the Board of Directors of Mercury Computer Systems, Inc. (the "Company") approved an amendment to Section 4.5 of the Company's By-Laws, which amendment was effective immediately. The amendment allows for the delivery of unanimous consents in lieu of meeting of the Board of Directors (or committees designated by the Board) by electronic transmission. 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 January 21, 2008 |

**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: January 24, 2008

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Robert E. Hult

---

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

**EXHIBIT INDEX**

---

| <u>Exhibit No.</u> | <u>Description</u>  |
|--------------------|---|
| 3.1                | Amendment to By-Laws of Mercury Computer Systems, Inc. dated January 21, 2008 |

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

The By-laws of Mercury Computer Systems, Inc., a Massachusetts corporation, are hereby amended by deleting Section 4.5 in its entirety and replacing such section with the following:

“Section 4.5 Consent in Lieu of Meeting and Participation in Meetings by Communications Equipment

Unless the Articles of Organization otherwise provide, any action required or permitted to be taken at any meeting of the Directors may be taken without a meeting if the action is taken by the unanimous consent of all of the Directors. The action must be evidenced by one or more consents describing the action taken, in writing, signed by each Director, or delivered to the Corporation by electronic transmission to the address specified by the Corporation for the purpose or, if no address has been specified, to the principal office of the Corporation, addressed to the Secretary or other officer or agent having custody of the records of proceedings of Directors, and included in the minutes or filed with the corporate records reflecting the action taken. Action taken under this Section is effective when the last Director signs or delivers the consent, unless the consent specifies a different effective date. A consent signed or delivered under this Section has the effect of a meeting vote and may be described as such in any document. This paragraph shall apply to any Committee designated by the Board of Directors and its members.

Members of the Board of Directors or any Committee designated thereby may participate in meetings of such Board or Committee by means of a conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other at the same time and participation by such means shall constitute presence in person at a meeting.”

The foregoing is certified as an Amendment to the By-laws of Mercury Computer Systems, Inc. as adopted by the Board of Directors on January 21, 2008.

/s/ Anthony J. Medaglia, Jr.

Anthony J. Medaglia, Jr.

Secretary