
**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 20, 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))
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Item 8.01 Other Events.

On October 20, 2008, the Board of Directors (the "Board") of Mercury Computer Systems, Inc. ("Mercury") elected Russell K. Johnsen as its new Chairman, effective upon the previously announced retirement of James R. Bertelli as non-executive Chairman at the Special Meeting in Lieu of the Annual Meeting of Shareholders on November 17, 2008. Mr. Johnsen has been a member of the Board since 2001 and is presently Mercury's Lead Independent Director and a member of the Compensation Committee of the Board.

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 24, 2008

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Alex A. Van Adzin

Alex A. Van Adzin

Vice President, General Counsel, and Corporation Secretary