

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) June 20, 2005

Mercury Computer Systems, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Massachusetts

000-23599

04-2741391

(State or Other Jurisdiction of Incorporation)

(Commission File Number)

(IRS Employer Identification No.)

199 Riverneck Road, Chelmsford, Massachusetts

01824

(Address of Principal Executive Offices)

(Zip Code)

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

N/A

(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 1.01 ENTRY INTO A MATERIAL DEFINITIVE AGREEMENT.

On June 20, 2005, upon recommendation of the Compensation Committee of the Board of Directors (the "Board") of Mercury Computer Systems, Inc. (the "Company"), the Board approved the acceleration of the vesting of the Company's outstanding stock options with an exercise price of \$29.00 or higher. As a result, vesting was accelerated for options to purchase 552,097 shares of the Company's common stock, par value \$.01 per share, with a weighted average exercise price of \$32.21 and exercise prices ranging from \$29.26 to \$40.85, including options to purchase 51,565 shares held by the Company's executive officers and no options to purchase shares held by the Company's non-employee directors.

By taking this action, the Company expects to reduce the effects of the Financial Accounting Standards Board's new standard, Statement of Financial Accounting Standard No.123R, "Share-Based Payment," which requires companies to recognize stock-based compensation expense associated with stock options based on the fair value method.

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.

MERCURY COMPUTER SYSTEMS, INC.

Dated: June 23, 2005

By: /s/ Joseph M. Hartnett

Joseph M. Hartnett
Vice President, Controller and
Chief Accounting Officer