

**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 3, 2005

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

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 5.02. Departure of Directors or Principal Officers; Election of Directors; Appointment of Principal Officers.

(a) Not applicable.

(b) and (c):

Effective October 3, 2005, Mercury Computer Systems, Inc. (the "Company") appointed Alex N. Braverman as Vice President, Corporate Controller and Chief Accounting Officer, and designated him as the Company's principal accounting officer. Prior to assuming his new position with the Company as a full-time employee, Mr. Braverman, age 46, had been providing financial reporting and accounting services to the Company as an independent contractor since August 2005. Prior to that, he served as Vice President, Chief Accounting Officer and Corporate Controller of NMS Communications Corporation, a provider of technologies, platforms and systems to wireless and wireline telecommunications operators, and network equipment and application providers, from 1999 to July 2005. From 1994 to 1998, Mr. Braverman held senior financial executive positions at Concentra Corporation, a developer of sales and engineering software automation products, ultimately serving as Vice President, Chief Financial Officer and Treasurer, and from 1988 to 1994 he served as Controller of Artel Communications Corporation, a manufacturer of networking products.

Mr. Braverman's base salary has been initially set at a rate of \$180,000 per year. Mr. Braverman has been awarded a grant of 25,000 stock options, which will vest at a rate of 25% per year for four years beginning on the first anniversary of his effective date of employment with the Company. Mr. Braverman is also eligible for an annual cash bonus of up to 40% of his annual base salary. The terms of Mr. Braverman's employment with the Company are as an employee-at-will.

Joseph M. Hartnett, who was the principal accounting officer of the Company prior to Mr. Braverman's appointment as Vice President, Corporate Controller and Chief Accounting Officer, has been appointed Vice President, Finance, in which role he will work directly with the Company's business units and operations to improve financial and operational performance.

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 hereunto duly authorized.

MERCURY COMPUTER SYSTEMS, INC.
(Registrant)

Date: October 5, 2005

By: /s/ Robert E. Hult

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