
**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 5, 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.)

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.

Mercury Computer Systems, Inc. (the "Company") has entered into a settlement (the "Settlement") with UBS AG (together with its affiliates, "UBS") to provide liquidity for the Company's auction rate securities portfolio held with UBS. As of December 31, 2008, the aggregate par value of the Company's auction rate securities was \$50.3 million, and the market value of the Company's auction rate securities was approximately \$42.0 million as calculated by UBS. In connection with the Settlement, the Company received rights to sell its auction rate securities to UBS at par value at any time during a two-year period beginning on June 30, 2010 and ending on July 2, 2012. By accepting the Settlement, the Company released UBS and its employees and agents from all claims (except claims for consequential damages) directly or indirectly relating to its marketing and sale of auction rate securities. The Company also agreed not to serve as a class representative or receive benefits under any class action settlement or investor fund.

In December 2008, pursuant to the Settlement, the Company was provided a line of credit from UBS for up to 75% of the market value of its auction rate securities (the "Line of Credit"). Any loans under the Line of Credit will be made on a "no net cost" basis to the Company, such that the interest that the Company pays on the loans will not exceed the interest that the Company receives on the auction rate securities pledged to UBS as security for the loans and which are held in a collateral account. The Line of Credit replaces the margin loan facility of \$23.7 million secured by the Company in fiscal year 2008, that was collateralized by the auction rate securities.

On December 29, 2008, the Company was advanced approximately \$31.5 million under the Line of Credit. The proceeds are currently invested in U.S. government treasury securities. Any loans under the Line of Credit are payable upon demand. However, except under certain limited circumstances, UBS is required to provide the Company with alternative financing on substantially similar terms. The loans under the Line of Credit are payable with any proceeds from the sale of the auction rate securities.

Forward-Looking Statements

This report contains forward-looking statements which are based upon current expectations that involve risks and uncertainties. The Company's actual results and the timing of events could differ materially from those anticipated in the forward-looking statements as a result of many factors, including: changes in general economic conditions and conditions in the financial markets; the risk that UBS will not have adequate financial resources to fulfill its obligations under the Settlement; the continued inability to liquidate the auction rate securities; changes in the Company's liquidity requirements; and such additional risk factors as are discussed in the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 2008. The Company assumes no obligation to update any such forward-looking statements after the date of this report.

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.

Dated: January 5, 2009

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Alex A. Van Adzin
Alex A. Van Adzin
Vice President, General Counsel, and Corporation Secretary