

**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): April 12, 2007**

**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 1.01. Entry into a Material Definitive Agreement.**

On April 12, 2007, Mercury Computer Systems, Inc. (the “Company”) and certain of its subsidiaries (collectively, “Sellers”) entered into a Purchase and Sale Agreement (the “P&S Agreement”) with BTI 199-201 Riverneck, L.P. (“Buyer”). Pursuant to the P&S Agreement, Sellers have agreed to sell the Company’s principal executive offices located in Chelmsford, Massachusetts (the “Facility”) and an adjacent vacant parcel to Buyer for an aggregate purchase price of \$27,000,000, subject to customary closing adjustments.

At the time of, and as a condition to, the closing of the sale of the Facility, the Company and Buyer will enter into a Lease (the “Lease”), pursuant to which the Company will lease back the Facility from Buyer for an initial 10-year term. The Lease will provide that the Company has the option to extend the term of the Lease for two additional five-year terms, subject to the satisfaction of certain conditions customary to transactions of this type. The Company will pay annual base rent of \$1,945,933.50 during years one through five of the initial term, and \$2,140,526.85 during years six through ten of the initial term. The base rent payable during each of the two extension terms will be based on the Fair Market Rental Value (as defined in the Lease) of the Facility as of the commencement of each such term. The annual base rent will be payable in 12 equal monthly installments.

The closing of the sale of the Facility is expected to occur on April 20, 2007, and is subject to the satisfaction or waiver of certain conditions that are customary for transactions of this type. Buyer has deposited \$2,000,000 in escrow (the “Deposit”), which will be delivered to Sellers and credited toward the purchase price if the transaction is consummated as contemplated by the P&S Agreement. If Sellers elect to terminate the P&S Agreement in accordance with its terms without having closed the transaction as a result of (a) any of Buyer’s material representations or warranties being untrue in any material respect or (b) Buyer defaulting in its obligation to consummate the transaction in accordance with the terms of the P&S Agreement or in any other material obligation, Sellers will be entitled to the Deposit as liquidated damages.

**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: April 18, 2007

By: /s/ Robert E. Hult  
Robert E. Hult  
Senior Vice President and  
Chief Financial Officer