
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 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 22, 2004

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)

ITEM 5. OTHER EVENTS

On April 21, 2004, Mercury Computer Systems, Inc. announced the pricing of its offering of \$100 million of Convertible Senior Notes due 2024 to be sold to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended. The notes will bear interest at a rate of 2.00%. The Company has also granted the initial purchasers of the notes a 30-day option to purchase up to an additional \$25 million aggregate principal amount of the notes to cover over-allotments. The sale of the notes is expected to close on April 29, 2004. The Company's press release is attached hereto and incorporated herein by reference.

ITEM 7. EXHIBITS

(c) Exhibits. The following exhibit is filed with this Current Report on Form 8-K.

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press release, dated April 21, 2004, issued by Mercury Computer Systems, Inc.

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: April 22, 2004

By: /s/ JOSEPH M. HARTNETT

Name: Joseph M. Hartnett

Title: Vice President, Controller and Chief Accounting Officer

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release, dated April 21, 2004, of Mercury Computer Systems, Inc.

Mercury Computer Systems, Inc. Announces Pricing of \$100 Million of 2.00% Convertible Senior Notes Due 2024

CHELMSFORD, Mass. – April 21, 2004 – Mercury Computer Systems, Inc. (Nasdaq: MRCY) announced today the pricing of its offering of \$100 million of convertible senior notes due 2024 to be sold to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended (the “Securities Act”). The notes will bear interest at a rate of 2.00%. The Company has also granted the initial purchasers of the notes a 30-day option to purchase up to an additional \$25 million aggregate principal amount of the notes to cover over-allotments. The sale of the notes is expected to close on April 29, 2004.

Under certain circumstances, the notes will be convertible into the Company’s common stock at a conversion rate of 33.0797 shares per \$1,000 principal amount of the notes, subject to adjustment in certain circumstances. The conversion rate is equal to an initial conversion price of approximately \$30.23 per share. Until the closing price of the stock is above the contingent conversion price of \$36.28 for at least twenty trading days in a thirty consecutive day period, or upon certain other events, the shares will not be included in the calculation of weighted average shares outstanding used in calculating the Company’s earnings per share. The last reported sale price for the Company’s common stock on April 21, 2004 was \$22.39 per share.

The Company has the right to redeem the notes on or after May 1, 2009 at par plus accrued and unpaid interest. Noteholders may require the Company to repurchase the notes at par plus accrued and unpaid interest on May 1, 2009, 2014 and 2019 and upon certain other events.

The Company intends to use the net proceeds for general corporate purposes, including working capital, capital expenditures, research and development, and potential acquisitions or other strategic investments.

The notes will not be registered under the Securities Act or any state securities laws, and may not be offered or sold in the United States absent registration or an applicable exemption from the registration requirements of the Securities Act and applicable state securities laws.

This press release does not and will not constitute an offer to sell or the solicitation of an offer to buy the notes.

Forward-Looking Safe Harbor Statement

This press release contains certain forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995. You should exercise caution in interpreting and relying on forward-looking statements because they involve known and unknown risks, uncertainties and other factors which are, in some cases, beyond Mercury’s control, and could cause actual results to differ materially from those projected or anticipated. Such risks and uncertainties include, but are not limited to, Mercury’s ability to complete the offering of convertible senior notes on the anticipated timetable, market conditions, and other risks and uncertainties detailed from time to time in Mercury’s filings with the Securities and Exchange Commission.

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Contacts:

Diane Basile
Mercury Computer Systems, Inc.
978-967-3105

Troy McCombs
Coltrin & Associates
212-221-1616