

**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): July 24, 2008

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))

Item 5.02 Departure of Directors or Principal Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(a), (c), and (d): Not applicable.

(b): On July 24, 2008, Mercury Computer Systems, Inc. (the "Company") issued a press release announcing the retirement of James "Jay" R. Bertelli as Executive Chairman of the Company, effective July 25, 2008 (the "Retirement Date"). Mr. Bertelli has assumed the role of non-executive Chairman of the Board until the Company's 2008 annual shareholders' meeting expected to be held in November 2008 (the "Annual Meeting Date"), after which he will retire from the Board of Directors. A copy of the press release announcing Mr. Bertelli's retirement is attached as Exhibit 99.1 and incorporated by reference herein.

(e): In connection with his retirement, Mr. Bertelli entered into a Retirement Agreement with the Company dated July 24, 2008. The following is a summary of the Retirement Agreement.

During the period between the Retirement Date and the Annual Meeting Date, Mr. Bertelli shall continue in the role of non-executive Chairman of the Board. Mr. Bertelli will receive a Chairman's fee for serving in such capacity, payable in five monthly installments in accordance with the Company's current practice. The Chairman's fee shall be in an aggregate amount equal to \$180,000, less any amounts paid to Mr. Bertelli for serving in the capacity of Executive Chairman of the Board of Directors from July 1, 2008, through the Retirement Date. Mr. Bertelli will not be eligible for any employee benefits.

Mr. Bertelli will provide consulting services to the Company from the Annual Meeting Date through June 30, 2010, in consideration for which the Company shall pay Mr. Bertelli an aggregate amount of \$190,000, payable in arrears in equal monthly installments. The Company will also reimburse Mr. Bertelli for business expenses incurred by Mr. Bertelli in the performance of the consulting services in accordance with the Company's business expense reimbursement policies and procedures.

In connection with Mr. Bertelli's retirement, certain stock options encompassing 82,917 shares of the Company's common stock and restricted stock awards encompassing 11,632 shares of the Company's common stock shall become exercisable in full as of certain dates specified in the Retirement Agreement, whether or not otherwise exercisable on such dates. Mr. Bertelli's rights to exercise vested stock options to purchase common stock of the Company shall be governed by the terms of the applicable stock option plan and award agreement.

The Retirement Agreement includes nondisclosure, non-solicitation, non-competition, and related covenants. In consideration for the non-disclosure, non-solicitation and non-competition covenants, the Company shall pay Mr. Bertelli an aggregate amount of \$500,000, which shall be payable in 24 monthly installments. The non-solicitation and non-competition covenants are in effect through the fifth anniversary of the Annual Meeting Date. The Retirement Agreement also includes a general release by Mr. Bertelli of the Company, its affiliates, their respective employee benefit plans, and the directors, officers, shareholders, employees, attorneys, accountants and agents of each of the foregoing from certain claims that he has or ever had against any of them.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release issued by Mercury Computer Systems, Inc. on July 24, 2008

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.

Dated: July 30, 2008

MERCURY COMPUTER SYSTEMS, INC.

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

FOR IMMEDIATE RELEASE

Mercury Computer Systems' Founder and Executive Chairman Jay Bertelli Retires

CHELMSFORD, Mass. – July 24, 2008 – Mercury Computer Systems, Inc. (NASDAQ: MRCY), a leading provider of high-performance computing solutions for image, sensor, and signal processing, announced the retirement of James “Jay” R. Bertelli as a Mercury employee and its Executive Chairman of the Board, effective July 25, 2008.

Mr. Bertelli will assume the role of Non-Executive Chairman of the Board until the Company’s 2008 annual shareholder meeting to be held later this year, after which he will retire from the Board of Directors. Mr. Bertelli has agreed to enter into a non-compete agreement and to provide consulting services to Mercury. A new Chairman of the Board will be named at a later date.

“Mercury’s unique capabilities in sensor signal processing and computational acceleration are a testament to Jay’s vision and dedication to customer success,” said Mark Aslett, President and CEO of Mercury Computer Systems. “We value the insight and support he will continue to provide in his new role.”

Mr. Bertelli served as Mercury’s President and CEO since the start of operations in 1983 and as its Chairman from 1998 to November 2007, when he was appointed Executive Chairman of the Board. Through the years, he developed the Company from a start-up operation with two employees working in borrowed space into a first-class engineering organization of more than 700 employees in offices and support centers worldwide, driving new technologies, industry standards, and unprecedented compute performance levels along the way.

“Back in the early 1980s, I set out to create a company that could develop high-speed accelerator modules to solve the growing challenges of high-performance computing. In the 25 years since, Mercury has stayed true to the philosophy of delivering unsurpassed engineering excellence and scalable computing solutions that leverage the best available technology for a customer’s application,” said Mr. Bertelli. “I’m very proud of the innovation the Mercury team continues to

drive, and of their unwavering commitment to advancing our customers' competitive edge. As we turn the corner on our 25th year, I look forward to supporting Mercury in the next era of high-performance computing."

Mercury Computer Systems, Inc. – Where Challenges Drive Innovation

Mercury Computer Systems (www.mc.com) provides specialized, high-performance computing systems and software designed for complex HPC and embedded applications in a range of industries that include aerospace and defense, telecommunications, medical imaging, semiconductor, EDA, and more. Our products blend unmatched expertise in algorithm optimization and silicon design with software application knowledge and industry-standard technologies. Mercury's comprehensive, purpose-built solutions capture, process, and present data for the world's largest medical imaging companies, 8 of the 10 top defense prime contractors, and other leading Fortune 500 and mid-market companies in semiconductor, energy, telecommunications, and other industries. Our dedication to performance excellence and collaborative innovation continues a 25-year history in enabling customers to gain the competitive advantage they need to stay at the forefront of the markets they serve.

Mercury is based in Chelmsford, Massachusetts, and serves customers worldwide through a broad network of direct sales offices, subsidiaries, and distributors. We are listed on the Nasdaq Global Select Market (NASDAQ: MRCY).

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, including those relating to the retirement of James R. Bertelli. You can identify these statements by our use of the words "may," "will," "should," "plans," "expects," "anticipates," "continue," "estimate," "project," "intend," and similar expressions. These forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. Such risks and uncertainties include, but are not limited to, general economic and business conditions, including unforeseen weakness in the Company's markets, effects of continued geo-political unrest and regional conflicts, competition, changes in technology and methods of marketing, delays in completing engineering and manufacturing programs, changes in customer order patterns, changes in product mix, continued success in technological advances and delivering technological innovations, continued funding of defense programs, the timing of such funding, changes in the U.S. Government's interpretation of federal procurement rules and regulations, market acceptance of the Company's products, shortages in components, production delays due to performance quality issues with outsourced components, inability to fully realize the expected benefits from acquisitions or delays in realizing such benefits, challenges in integrating acquired businesses and achieving anticipated synergies, and difficulties in retaining key customers. These risks and uncertainties also include such additional risk factors as are discussed in the Company's recent filings with the U.S. Securities and Exchange Commission, including its Annual Report on Form 10-K for the fiscal year ended June 30, 2007. The Company cautions readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. The Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made.

Contact:

Robert Hult, Chief Financial Officer
978-967-1990

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