

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): September 6, 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 7.01. Regulation FD Disclosure.**

The management of Mercury Computer Systems, Inc. ("Mercury") will present an overview of Mercury's business on Thursday, September 6, 2007 at the Kaufman Brothers 10th Annual Investor Conference. Attached as Exhibit 99.1 to this Current Report on Form 8-K (the "Report") is a copy of the slide presentation to be made by Mercury at the conference.

This information is being furnished pursuant to Item 7.01 of this Report and shall not be deemed to be "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section and will not be incorporated by reference into any registration statement filed by Mercury under the Securities Act of 1933, as amended, unless specifically identified as being incorporated therein by reference. This Report will not be deemed an admission as to the materiality of any information in this Report that is being disclosed pursuant to Regulation FD.

Please refer to page 2 of Exhibit 99.1 for a discussion of certain forward-looking statements included therein and the risks and uncertainties related thereto, as well as the use of non-GAAP financial measures included therein.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
99.1	Presentation materials dated September 6, 2007.

**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: September 6, 2007

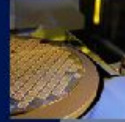
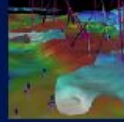
By: /s/ Alex N. Braverman  
Alex N. Braverman  
Vice President, Controller and  
Chief Accounting Officer

EXHIBIT INDEX

Exhibit No.  
99.1

Description  
Presentation materials dated September 6, 2007.

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# Kaufman Bros. 10th Annual Investor Conference September 6, 2007

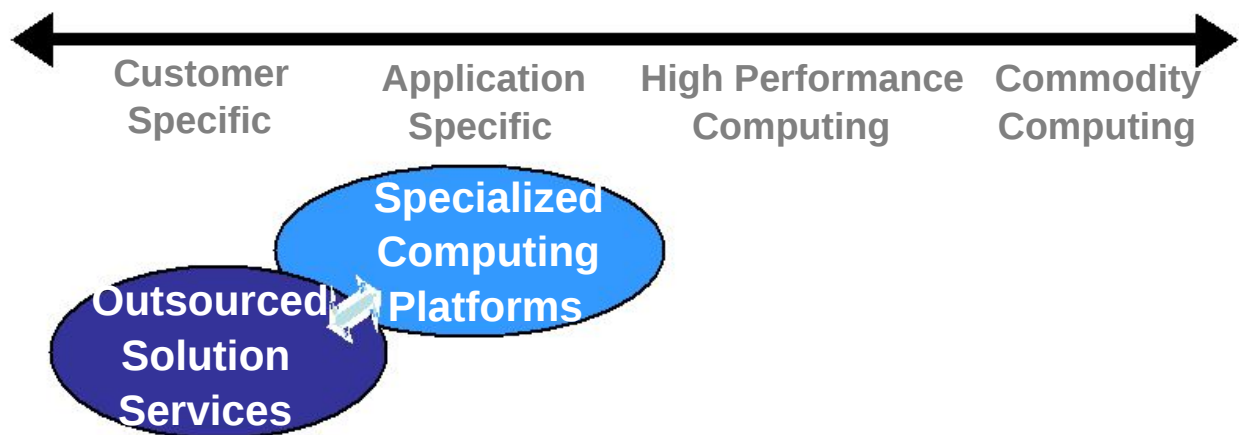
**Jay Bertelli**, President, Chief Executive Officer & Chairman  
**Bob Hult**, SVP, Chief Financial Officer

This presentation contains certain forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995, including those relating to anticipated fiscal 2007 business performance and beyond. 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 geopolitical 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, the 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 year ended June 30, 2006. 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.

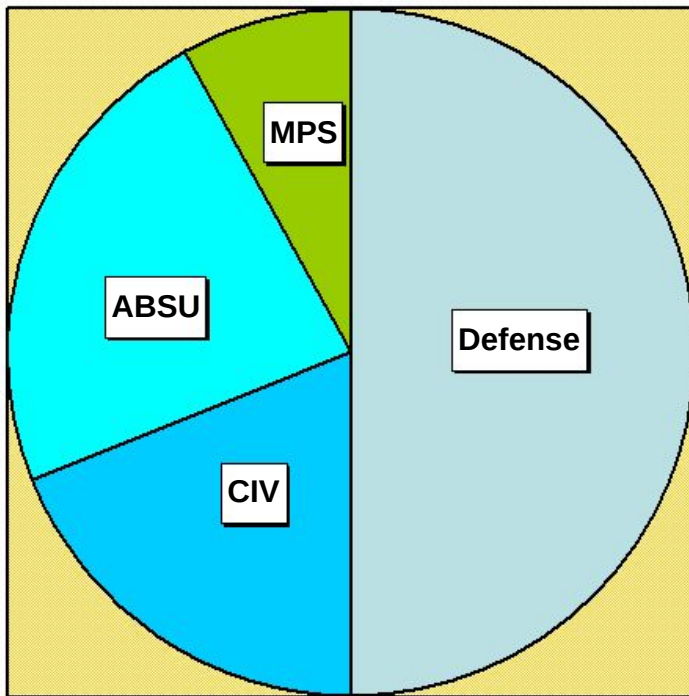
## **Use of Non-GAAP (Generally Accepted Accounting Principles) Financial Measures**

In addition to reporting financial results in accordance with generally accepted accounting principles, or GAAP, the Company provides non-GAAP financial measures adjusted to exclude certain specified charges, which the Company believes are useful to help investors better understand its past financial performance and prospects for the future. However, the presentation of non-GAAP financial measures is not meant to be considered in isolation or as a substitute for financial information provided in accordance with GAAP. Management believes these non-GAAP financial measures assist in providing a more complete understanding of the Company's underlying operational results and trends, and management uses these measures, along with their corresponding GAAP financial measures, to manage the Company's business, to evaluate its performance compared to prior periods and the marketplace, and to establish operational goals. A reconciliation of GAAP to non-GAAP financial measures discussed in this presentation is contained in the company's Fourth Quarter and Fiscal Year 2007 earnings release, which can be found on our website at [www.mc.com/mediacenter/pr/](http://www.mc.com/mediacenter/pr/).

- Solve problems too complex for standard computing
- Architect optimal solutions for compute and data intensive applications
- Unique skill set for advanced, real-time, 3D visualization
- Provide cost-effective hardware and software products and system-level solutions



## FY07 (Ended June) Revenue Mix



- **Founded in 1983**
- **FY2007 revenues of \$224 million**
- **End markets:**
  - **Aerospace & Defense**
  - **Life Sciences**
  - **Semiconductor Equipment**
  - **Geosciences**
  - **Communications**



- **Data explosion across multiple markets**
- **Mercury uniquely positioned to implement multi-core processing systems**
- **Strategic acquisitions starting to produce**
- **Large opportunity in 3D medical imaging**
- **New alignment of internal competencies should drive new business opportunities**
- **Recent cost-reduction initiatives should improve margins**

## Solutions for Complex Computing Problems

### Processor Platforms

Cell BE, FPGA,  
GPU,  
Multicore,  
Pentium  
DSP

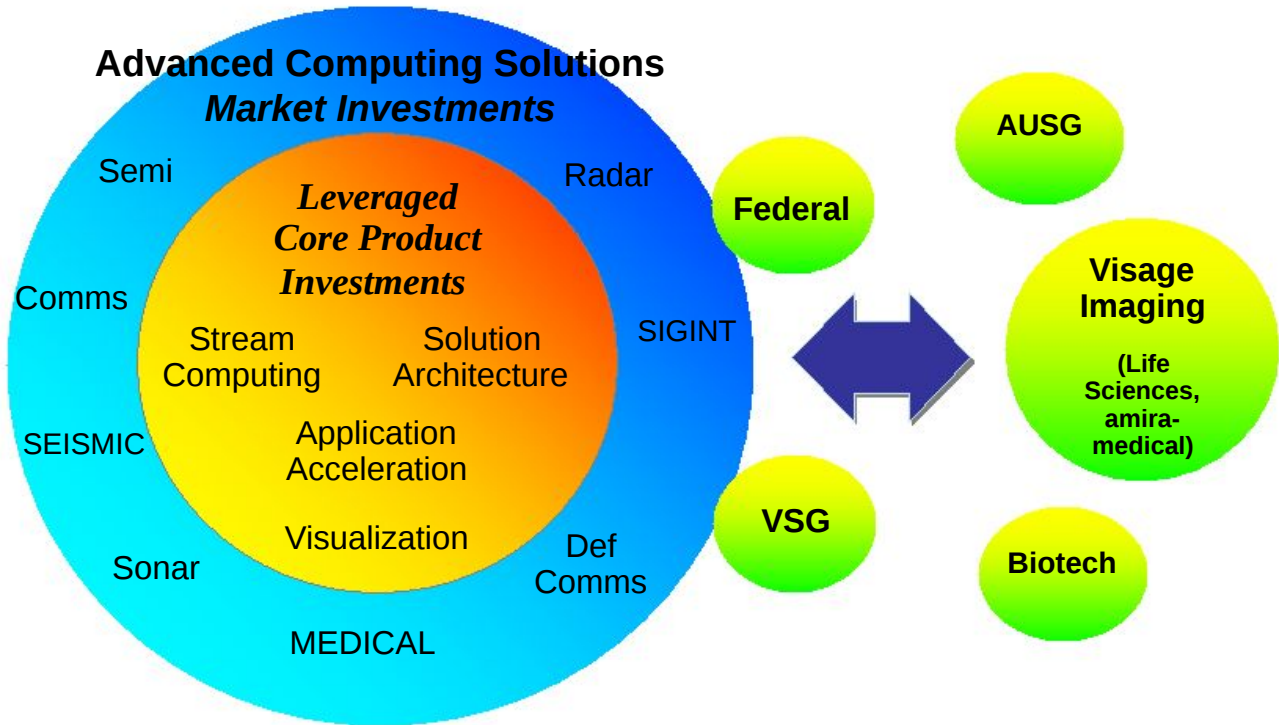
Mercury  
software, systems  
engineering, and  
domain  
expertise

### Compute-intensive applications

Aerospace &  
Defense  
Life Sciences  
Communications  
Video  
Semiconductor  
Geosciences

*Specialized Computing Business*

*Emerging Markets*

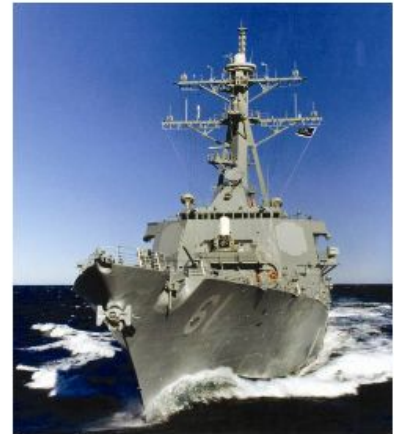


## Leveraging Mercury technology across:

- Defense
- Semiconductor
- Communications
- Intelligence
- Homeland Security
- Research



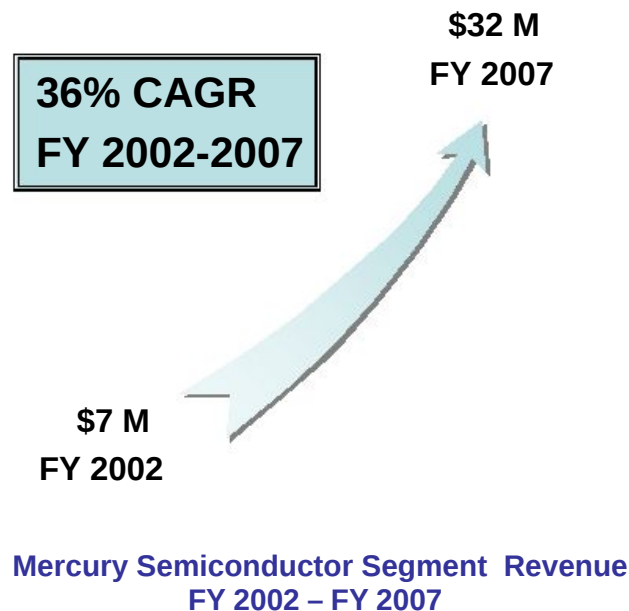
- **Strong customer base**
  - 20 years of experience
  - COTS model
- **Technology leadership**
  - Strong position in large, complex radar systems
  - Programmable solutions moving closer to the war fighter
- **Broadening market portfolio**
  - Signals intelligence
  - Net-centric warfare
    - Wideband Data Links
  - UAVs
    - Synthetic Vision
  - Sonar
  - Smart weapons
  - Ground based radar



## GOAL:

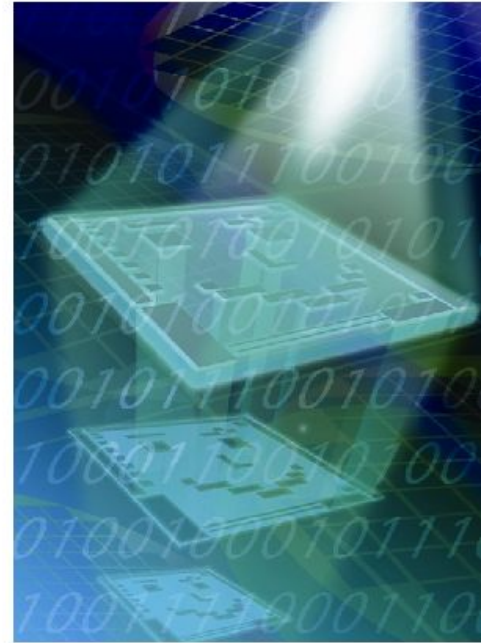
- **Extend Mercury's capabilities directly into:**
  - Intelligence Agencies
  - Homeland Security
- **To solve their unique problems**
  - Massive amounts of sensor data into intelligent information actionable by the recipient
- **New business model for Mercury**
  - Government contracting vehicle
  - Consulting services
  - Systems engineering
  - Products and services

## Strong Organic Growth



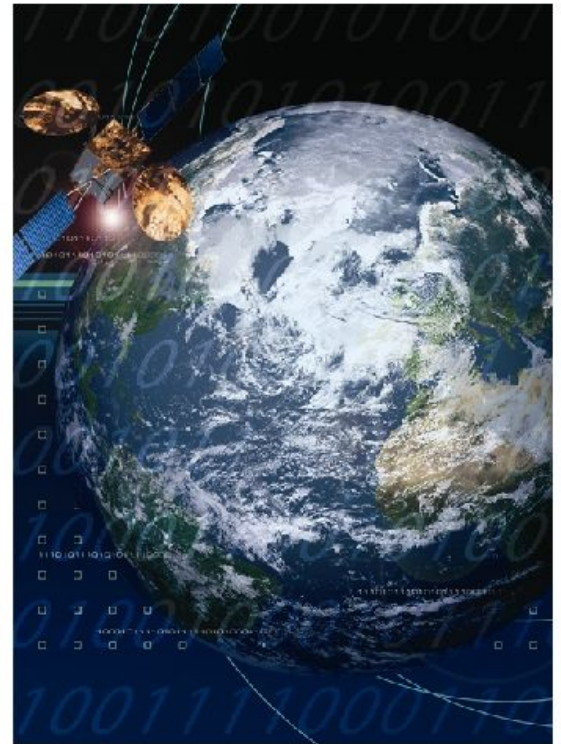
- **Supplying application-enabling solutions to leading OEMs**
- **Growth driven by production design wins**
  - Mask generation
  - Wafer inspection
  - Reticle inspection
- **Positioned for the next wave**
  - Mercury Cell BE-based solutions uniquely meet market needs
  - Emerging new applications for Mercury solutions

- **Compute-intensive processing required to prepare designs for mask creation**
  - **Resolution Enhancement Technology (RET)**
  - **Design For Manufacturing (DFM)**
- **Mercury Cell BE-based solutions to provide over 10 Teraflops to speed application by 10x to 100x**
- **Partnership with Mentor Graphics to deploy first Cell BE-based platform for EDA market**

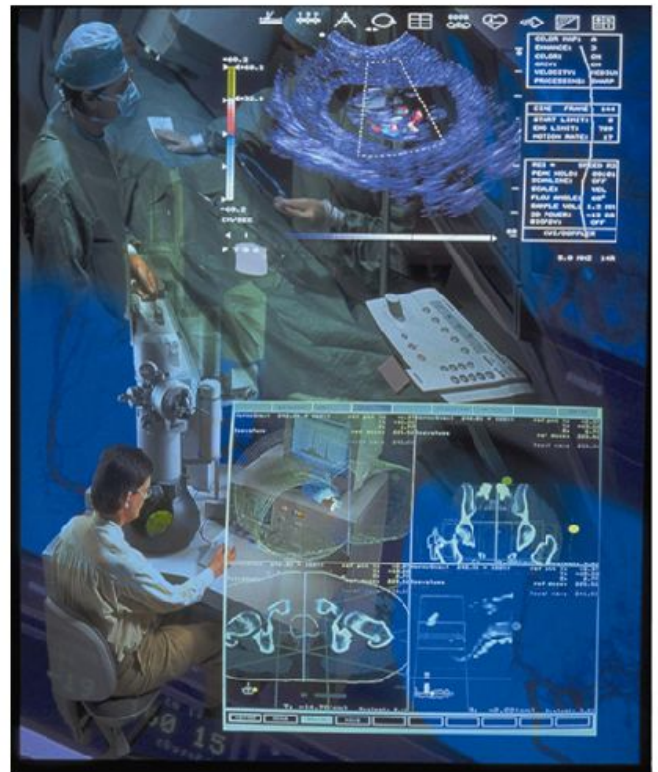


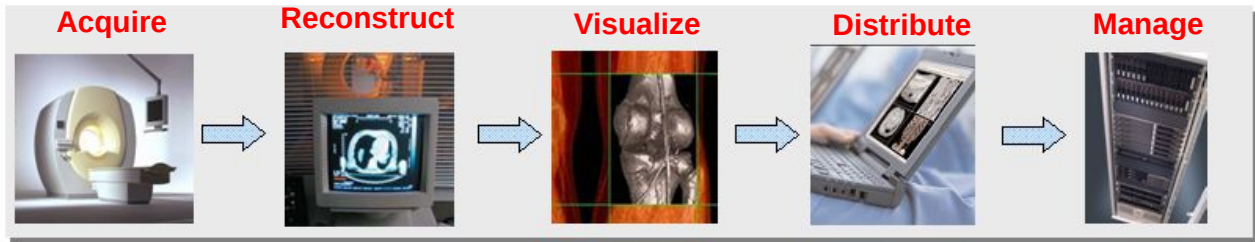


- **Communications market potential**
  - **System development platforms for wireless infrastructure applications**
- **Growth Opportunity**
  - **Advanced TCA DSP and FPGA compute solutions**
  - **Example: Satellite ground stations for Ancillary Terrestrial Component (ATC)**
  - **Wideband Data Link Modems for Net-centric Warfare**



- Wholly owned subsidiary
- Focused on software-based medical imaging solutions
  - Web based PACS
  - Client / server model for 3D visualization
- Distribution Strategy
  - OEMs
  - Direct
  - Distributors
- Market Segments
  - Clinical DMI
  - Microscopy
  - Biomedical Research
  - Pharma





- Multi-channel MRI receiver
- CT gantry dose controller

- Visage RT image reconstruction
- GPU acceleration
- CELL technology acceleration

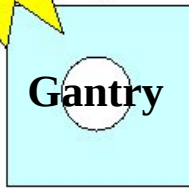
- Visage VR volume rendering
- Visage WS workstation
- Visage CS thin client server

- Visage PACS
- Visage CS thin client server
- Visage CS Cardiac analysis

- Visage PACS
-



## Competition



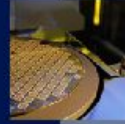
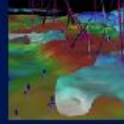
Medical Imaging – Signal Processing and Workflow

Hardware & Software Solutions

**Control      Recon      Visualize      Distribute      Archive**

Barco/Voxar			X		
TeraRecon		X	X	X	
Vital Images + Innovation			X	X	
Merge/Cedara			X	X	X
Analogic	X	X			
Visage Imaging (Mercury)	X	X	X	X	X

- **Emerging markets where Mercury can leverage its technology**
  - Visualization Sciences Group (incubator)
    - Oil and Gas Exploration
    - Industrial Design
    - Corp and Univ Research Labs
    - Non-destructive Testing
  - Synthetic Vision for UAVs
    - Border Patrol
    - Forest Fire Detection
    - Utility and Pipeline Monitoring
  - Biotech
    - Drug discovery – computer simulation
    - Very early stage
- **Potentially large niche markets**
- **Focus on selling applications and services**
- **FY08 Investment Year**

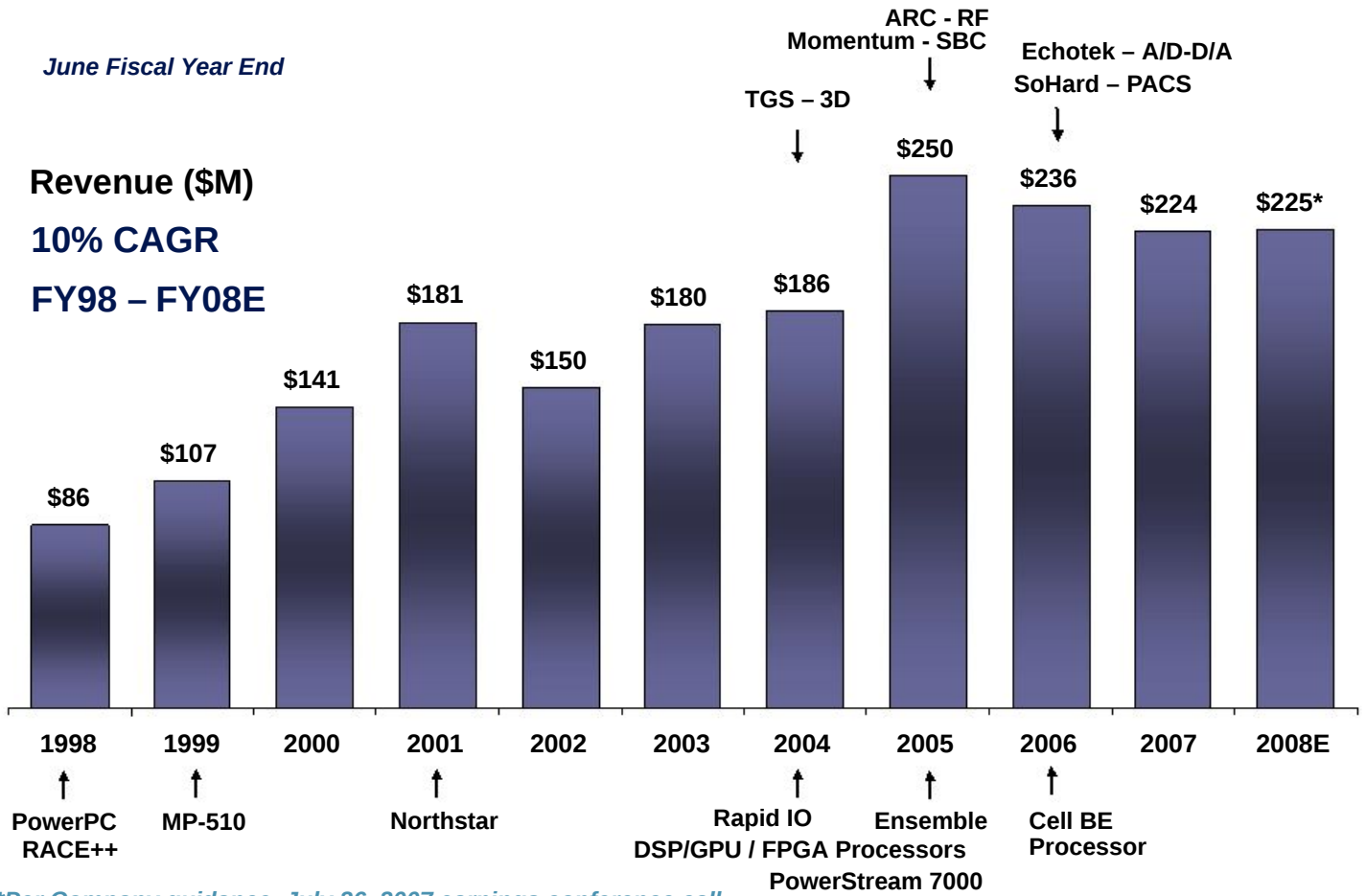


## Financial Overview

# Revenue Follows Technology Cycles

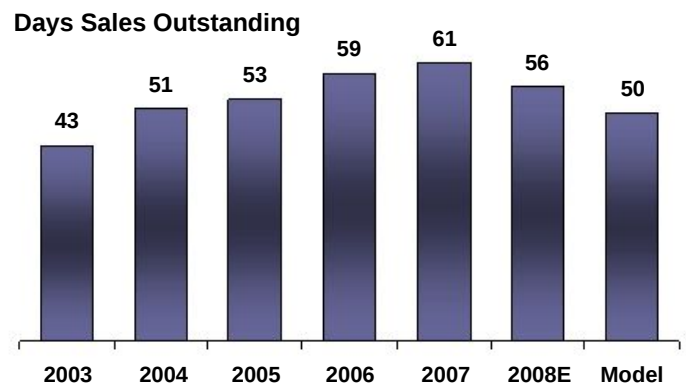
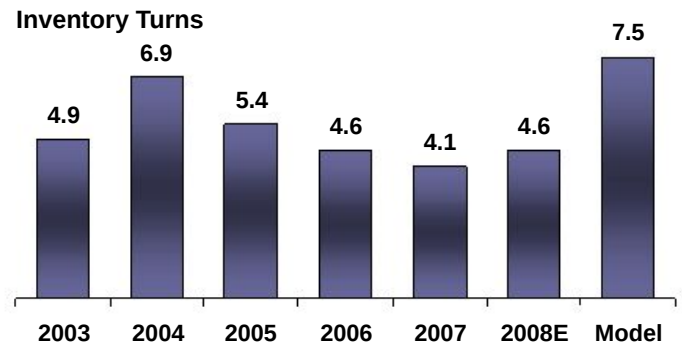
June Fiscal Year End

Revenue (\$M)  
 10% CAGR  
 FY98 – FY08E



\*Per Company guidance, July 26, 2007 earnings conference call

- **Supply chain transformation**
  - **Competitive advantage for Mercury and customers**
  
- **Customer satisfaction**
  - **DSO target 50 days**





**Historically strong  
balance sheet**

**Net cash positive**

**Projected FY08 capex  
of \$7 million**

**Positive free cash  
flow in FY08**

*Quarter ended June 30, 2007*

Cash and Equivalents	\$157
Total Current Assets	\$196
Total Assets	\$360
Total Debt *	\$125
Total Liabilities	\$191
Stockholders' Equity	\$169

- *2% convertible senior notes offering due 2024*

<i>Non-GAAP</i>	FY05	FY06	FY07	Guidance FY08*	Timeless Business Model
<b>Revenue</b>	100%	100%	100%	100%	<b>100%</b>
<b>Gross Margin</b>	66%	62%	56%	57%	<b>60+%</b>
<b>SG&amp;A</b>	29%	34%	36%		
<b>R&amp;D</b>	20%	25%	26%		
<b>Income from Operations</b>	17%	3%	(6%)	0%	<b>16-18%</b>

*\*Per Company guidance, July 26, 2007 earnings conference call*

	Quarter Ending September 30, 2007	
<b>Revenues (\$M)</b>	<b>\$48</b>	
	<b>GAAP</b>	<b>Non-GAAP</b>
<b>Gross Margin</b>	<b>57%</b>	<b>57%</b>
<b>EPS</b>	<b>\$(0.33)</b>	<b>\$(0.08)</b>

- Impact of equity-based compensation costs related to FAS 123(R) of approximately \$2.6M excluded from non-GAAP
- Acquisition-related amortization of approximately \$1.8M excluded from non-GAAP

**Notes:**

- 1) *Figures in millions, except percent and per share data which includes adjustment for contingent convertibles, in accordance with GAAP*
- 2) *Company guidance, July 26, 2007 earnings conference call*

	Fiscal Year Ending June 30, 2008	
<b>Revenues (\$M)</b>	<b>\$225</b>	
	<b>GAAP</b>	<b>Non-GAAP</b>
<b>Gross Margin</b>	<b>57%</b>	<b>57%</b>
<b>EPS</b>	<b>\$(0.63)</b>	<b>\$0.17</b>

- Impact of equity-based compensation costs related to FAS 123(R) of approximately \$11M excluded from non-GAAP
- Acquisition-related amortization of approximately \$7M excluded from non-GAAP

**Notes:**

- 1) *Figures in millions, except percent and per share data which includes adjustment for contingent convertibles, in accordance with GAAP*
- 2) *Company guidance, July 26, 2007 earnings conference call*

**www.mc.com**  
**NASDAQ: MRCY**