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 OMB APPROVAL  
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U.S. SECURITIES AND EXCHANGE COMMISSION  
 Washington, D.C. 20549

FORM 4

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
 Section 17(a) of the Public Utility Holding Company Act of 1935 or  
 Section 30(f) of the Investment Company Act of 1940

[ ] Check this box if no longer subject of Section 16. Form 4 or Form 5  
 obligations may continue. See Instruction 1(b).

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1. Name and Address of Reporting Person

Chasen, Steven

-----  
 (Last) (First) (Middle)

76 Country Club Circle

-----  
 (Street)

Pembroke, MA 02359

-----  
 (City) (State) (Zip)

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2. Issuer Name and Ticker or Trading Symbol

Mercury Computer Systems, Inc. ("MRCY")

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3. IRS or Social Security Number of Reporting Person (Voluntary)

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4. Statement for Month/Year

October 2000

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5. If Amendment, Date of Original (Month/Year)

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6. Relationship of Reporting Person to Issuer

(Check all applicable)

[ ] Director [ ] 10% Owner  
 [ X ] Officer (give title below) [ ] Other (specify below)

Senior Vice President and General Manager, Operations

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7. Individual or Joint/Group Filing (Check Applicable Line)

[ X ] Form filed by One Reporting Person  
 [ ] Form filed by More than One Reporting Person

Table I -- Non-Derivative Securities Acquired, Disposed of,  
 or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (mm/dd/yy)	3. Transaction Code (Instr. 8) ----- Code V	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		5. Amount of Securities Beneficially Owned at End of Month (Instr. 3 and 4)	6. Owner- ship Form: Direct (D) or Indirect (I) (Instr.4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Amount	(A) or (D) Price			
Common Stock	10/27/00	M	12,500	A 4.00	52,240	D	
Common Stock	10/27/00	M	400	A 7.625	52,240	D	

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly

FORM 4 (continued)

Table II -- Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conver- sion of Exer- cise Price of Deriv- ative Secur- ity	3. Trans- action Date (Month/ Day/ Year)	4. Trans- action Code (Instr. 8) ----- Code V	5. Number of Derivative Securities Acquired (A) or Disposed of(D) (Instr. 3, 4 and 5) ----- (A) (D)	6. Date Exercisable and Expiration Date (Month/Day/Year) ----- Date Expira- tion Date	7. Title and Amount of Underlying Securities (Instr. 3 and 4) ----- Amount or Number of Shares	8. Price of Deriv- ative Secur- ity (Instr. 5)	9. Number of Deriv- ative Secur- ities Bene- ficially Owned at End of Month (Instr. 4)	10. Owner- ship of Deriv- ative Secur- ity: Direct (D) or In- direct (I) (Instr. 4)	11. Nature of In- direct Bene- ficial Owner- ship (Instr. 4)
Stock Option (Right to Buy)	\$2.00				(1) 7/30/06	Common		2,160	D	
Stock Option (Right to Buy)	\$4.00	10/27/00	M	12,500	(2) 9/19/06	Common	12,500	4.00	25,000	D
Stock Option (Right to Buy)	\$7.625	10/27/00	M	400	(3) 9/28/08	Common	400	7.625	1,600	D

Explanation of Responses:

- (1) The option became exercisable as to 720 shares on July 30, 1999, and becomes exercisable as to an additional 720 shares on each of July 30, 2001 and July 30, 2002.
- (2) The option became exercisable as to 12,500 shares on each of October 20, 1999 and October 20, 2000 and becomes exercisable as to an additional 12,500 shares on October 20, 2001.
- (3) The option became exercisable as to 400 shares on each of September 28, 1999 and September 28, 2000 and becomes exercisable as to an additional 400 shares on each of September 28, 2001, September 28, 2002 and September 28, 2003.

/s/Steven Chasen

January 9, 2001

\*\*Signature of Reporting Person

Date

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations.

See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed.  
If space provided is insufficient, see Instruction 6 for procedures.

Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.