SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13G (Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO RULES 13d-1 (b) (c), AND (d) AND AMENDMENTS THERETO FILED PURSUANT TO RULE 13d-2 (b)

(Amendment No. 1)

			Mercury Comp	outer Systems	s, Inc.		
			(Name	e of Issuer)			
			Common Sto	ck, \$0.01 paı	r value		
			(Title of C	lass of Secui	rities)		
			!	589378108			
			(CU	SIP Number)			
			Decer	mber 31, 200	7		
	(Date of	f Event which Red	quires Filino	g of thi	s Statement)	
Check is fi		opriate	e box to designa	te the rule p	oursuant	to which this Sched	ule
13 11	X _	Rule 13	3d-1(b) 3d-1(c) 3d-1(d)				
initi for a	al filing ny subseq	on th: uent ar		pect to the sing informat:	subject	r a reporting person class of securities, h would alter	
to be 1934	"filed" ("Act") o hall be s	for the	e purpose of Secr rwise subject to	tion 18 of th the liabilit	ne Secur ties of	page shall not be de ities Exchange Act o that section of the (however, see the	f
CUSIP	No. 5893	78108		13G		======================================	ages
===== 1.	NAMES OR	REPOR ⁻	======================================			========= S	====
	Renaissa	nce Ted	chnologies LLC		26-038	5758	
2.			ATE BOX IF A MEMI	BER OF A GROU	JP (SEE	INSTRUCTIONS):	
 3.	SEC USE						
 4.	CITIZENS	HIP OR	PLACE OF ORGANIZ				
	Delaware						
		5.	SOLE VOTING POW				
			1,797,400				
	BER OF	6.	SHARED VOTING PO				
BENE	ARES FICIALLY		0				
OWNED BY EACH REPORTING							
REP		7.	SOLE DISPOSITIVE				
PE		7.	SOLE DISPOSITIVE	E POWER			

	0	
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	
	1,797,400	
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)	I_I
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)	
	7.93%	
12.	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)	
	IA	

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	No. 5893	78108	13G	Page 3 of 8 Pages		
1.	NAMES OR REPORTING PERSONS S.S. OR I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS James H. Simons					
2.	CHECK APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS): (a) $\mid_{-}\mid$					
	(b) _					
3.	SEC USE ONLY					
4.	CITIZENS	HIP OR	PLACE OF ORGANIZATION			
	United States					
		5.	SOLE VOTING POWER			
			1,797,400			
	BER OF	6.	SHARED VOTING POWER			
BENE	ARES FICIALLY		0			
E	ED BY ACH	7.	SOLE DISPOSITIVE POWER			
PEI	ORTING RSON		1,797,400			
W:	WITH		SHARED DISPOSITIVE POWER			
			0			
9.	AGGREGAT	E AMOU	NT BENEFICIALLY OWNED BY EACH REPORTING PE	RSON		
	1,797,40	9				
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) _					
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)					
	7.93%					
12.	TYPE OF	 REPORT	ING PERSON (SEE INSTRUCTIONS)			
	IN					

 		_		_

CUSIP No. 589378108

13G

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Item 1.

(a) Name of Issuer.

Mercury Computer Systems, Inc.

(b) Address of Issuer's Principal Executive Offices.

> 199 Riverneck Road Chelmsford, MA 01824

Item 2.

(a) Name of Person Filing.

> This Schedule 13G is being filed by Renaissance Technologies LLC ("RTC") and James H. Simons ("Simons").

(b) Address of Principal Business Office or, if none, Residence.

The principal business address of the reporting persons is:

800 Third Avenue New York, New York 10022

(c) Citizenship.

> Dr. Simons is a United States citizen and RTC is a Delaware limited liability company

(d) Title of Class of Securities.

Common Stock, \$0.01 par value

CUSIP Number. (e)

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	this statement is filed pursuant to Rule 13d-1(b) or 13d-2(b) eck whether the person filing is a:	or (c),					
(b) (c) (d) (e) (f) (g) (h) (i)	 	cment (ii)(E). Sec. deral					
If th $ $.	his statement is filed pursuant to Sec. 240.13d-1(c), check thi	ls box					
Item 4. Own	nership						
(a)	(a) Amount Beneficially Owned.						
	RTC: 1,797,400 shares						
	Simons: 1,797,400 shares, comprising the shares beneficially owned by RTC, because of Dr. Simons' position as cont person of RTC.						
(b)	Percent of Class. RTC: 7.93% Simons: 7.93%						
(c)	(c) Number of shares as to which each such person has						
	(i) sole power to vote or to direct the vote: RTC: 1, Simons: 1,	797,400 797,400					
	(ii) shared power to vote or to direct the vote: 0						
	(iii) sole power to dispose or to direct the disposition of: RTC: 1, Simons: 1,	797,400 797,400					
	(iv) shared power to dispose or to direct the disposition of: 0						

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Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following $|\ |\ |$

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Certain funds and accounts managed by RTC have the right to receive dividends and proceeds from the sale of the securities which are the subject of this report. RIEF Trading LLC holds of record more than 5% of such securities.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person.

Not applicable.

Item 8. Identification and Classification of Members of the Group.

Not applicable.

Item 9. Notice of Dissolution of Group.

Not applicable.

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Item 10. Certification.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: February 12, 2008

/s/ James H. Simons
James H. Simons

Renaissance Technologies LLC

By: /s/ Mark Silber

Mark Silber
Executive Vice President

Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (see 18 U.S.C. 1001).

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SCHEDULE 13G

EXHIBIT INDEX

EXHIBIT NO. EXHIBIT

Agreement Pursuant to Rule 13d-1(k)(1)(iii) (incorporated by reference to Exhibit 99.1 to the initial filing of this Schedule 13G on February 12, 2007). 99.1

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