

RUDOLPH TECHNOLOGIES INC  
Form SC 13G/A  
February 14, 2014

**SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**SCHEDULE 13G\***

(Rule 13d-102)

**INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT  
TO §240.13d-1(b), (c) AND (d) AND AMENDMENTS THERETO FILED  
PURSUANT TO §240.13d-2.**

**(Amendment No. 1)\***

Rudolph Technologies, Inc.

(Name of Issuer)

Common Stock, \$0.001 par value per share

(Title of Class of Securities)

781270103

(CUSIP Number)

December 31, 2013

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

X Rule 13d-1(b)

X Rule 13d-1(c)

Rule 13d-1(d)

\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

(1)	Names of Reporting Persons	STEELHEAD PARTNERS, LLC	
(2)	Check the Appropriate Box if a Member of a Group (See Instructions) SEC Use Only	(a) £ (b) £	
(3)	Citizenship or Place of Organization	Delaware	
(4)	NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	(5) Sole Voting Power	2,009,425
		(6) Shared Voting Power	0
		(7) Dispositive Power	2,009,425
		(8) Shared Dispositive Power	0
(9)	Aggregate Amount Beneficially Owned by Each Reporting Person		2,009,425
(10)	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)		
(11)	Percent of Class Represented by Amount in Row (9)		5.8%
(12)	Type of Reporting Person (See Instructions)		IA

(1)	Names of Reporting Persons	JAMES MICHAEL JOHNSTON
(2)	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) £ (b) £
(3)	SEC Use Only	
(4)	Citizenship or Place of Organization	United States
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	(5)	Sole Voting Power 0
	(6)	Shared Voting Power 2,009,425
	(7)	Sole Dispositive Power 0
	(8)	Shared Dispositive Power 2,009,425
(9)	Aggregate Amount Beneficially Owned by Each Reporting Person	2,009,425
(10)	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)	
(11)	Percent of Class Represented by Amount in Row (9)	5.8%
(12)	Type of Reporting Person (See Instructions)	IN/HC

(1)	Names of Reporting Persons	BRIAN KATZ KLEIN	
(2)	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) £ (b) £	
(3)	SEC Use Only		
(4)	Citizenship or Place of Organization	United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	(5)	Sole Voting Power	0
	(6)	Shared Voting Power	2,009,425
	(7)	Sole Dispositive Power	0
	(8)	Shared Dispositive Power	2,009,425
(9)	Aggregate Amount Beneficially Owned by Each Reporting Person		2,009,425
(10)	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)		
(11)	Percent of Class Represented by Amount in Row (9)		5.8%
(12)	Type of Reporting Person (See Instructions)		IN/HC

(1)	Names of Reporting Persons	STEELHEAD PATHFINDER MASTER, L.P.	
(2)	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) £ (b) £	
(3)	SEC Use Only		
(4)	Citizenship or Place of Organization	Cayman Islands	
	NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	(5) Sole Voting Power	2,009,425
		(6) Shared Voting Power	0
		(7) Dispositive Power	2,009,425
		(8) Shared Dispositive Power	0
(9)	Aggregate Amount Beneficially Owned by Each Reporting Person		2,009,425
(10)	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)		
(11)	Percent of Class Represented by Amount in Row (9)		5.8%
(12)	Type of Reporting Person (See Instructions)		PN

Item 1(a). Name of Issuer:

Rudolph Technologies, Inc.

Item 1(b). Address of Issuer's Principal Executive Offices:

One Rudolph Road

PO Box 1000

Flanders, NJ 07836

Item 2(a). Names of Persons Filing:

Steelhead Partners, LLC ("Steelhead")

James Michael Johnston

Brian Katz Klein

Steelhead Pathfinder Master, L.P. ("Steelhead Pathfinder")

Item 2(b). Address of Principal Business Office or, if None, Residence:

The principal business office of each reporting person other than Steelhead Pathfinder is:

333 108th Avenue NE, Suite 2010

Bellevue, WA 98004

The principal business office of Steelhead Pathfinder is:

c/o Maples Corporate Services Limited

P.O. Box 309, Ugland House

Grand Cayman, KY1-1104, Cayman Islands

Item 2(c). Citizenship:

Reference is made to Item 4 of pages 2, 3, 4 and 5 of this Schedule 13G (this "Schedule"), which Items are incorporated by reference herein.

Item 2(d). Title of Class of Securities:

Common Stock, \$0.001 par value per share.

Item 2(e). CUSIP Number:

781270103

Item 3. If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d) Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C 80a-8).
- X (e) An investment adviser in accordance with §240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F);
- X (g) A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);
- (h) A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J);
- (k) Group, in accordance with §240.13d-1(b)(1)(ii)(J).

If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution:

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#### Item 4. Ownership.

Reference is hereby made to Items 5-9 and 11 of pages 2, 3, 4 and 5 of this Schedule, which Items are incorporated by reference herein.

As of December 31, 2013, Steelhead Pathfinder is the beneficial owner of certain convertible notes issued by the issuer which are convertible into an aggregate of 2,009,425 shares of the issuer's common stock (based on the conversion rates set forth in such notes as of December 31, 2013).

The securities reported on this Schedule as beneficially owned by Steelhead (the "Securities") are held by and for the benefit of Steelhead Pathfinder. Steelhead, as the investment manager of Steelhead Pathfinder, and the sole member of Steelhead Pathfinder's general partner, and each of J. Michael Johnston and Brian K. Klein, as the member-managers of Steelhead, may be deemed to beneficially own the Securities held by Steelhead Pathfinder for the purposes of Rule 13d-3 under the Securities Exchange Act of 1934 (the "Act"), insofar as they may be deemed to have the power to direct the voting or disposition of those Securities.

Neither the filing of this Schedule nor any of its contents shall be deemed to constitute an admission that any of Steelhead, Mr. Johnston or Mr. Klein is, for any other purpose, the beneficial owner of any of the Securities, and each of Steelhead, Mr. Johnston and Mr. Klein disclaims beneficial ownership as to the Securities, except to the extent of his or its pecuniary interests therein.

Under the definition of “beneficial ownership” in Rule 13d-3 under the Act, it is also possible that the individual general partners, executive officers, and members of the foregoing entities might be deemed the “beneficial owners” of some or all of the Securities insofar as they may be deemed to share the power to direct the voting or disposition of such Securities. Neither the filing of this Schedule nor any of its contents shall be deemed to constitute an admission that any of such individuals is, for any purpose, the beneficial owner of any of the Securities, and such beneficial ownership is expressly disclaimed.

The calculation of percentage of beneficial ownership in Item 11 of pages 2, 3, 4 and 5 of this Schedule was derived from the issuer’s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 6, 2013, in which the issuer stated that the number of shares of its common stock outstanding as of October 21, 2013 was 32,941,916 shares. Pursuant to Rule 13d-3(d)(1)(i), the Securities have been added to the Issuer’s total number of shares outstanding, for a total of 34,951,341 shares outstanding for purposes of calculating each of the Reporting Persons’ beneficial ownership percentage.

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

Not applicable.

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

Steelhead is the investment manager of Steelhead Pathfinder and, in that capacity, has been granted the authority to dispose of and vote the Securities held by Steelhead Pathfinder. Steelhead Pathfinder has the right to receive (or the power to direct the receipt of) dividends received in connection with ownership of the Securities and the proceeds from the sale of the 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.



Item 10. Certifications.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and 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.

STEELHEAD PARTNERS, LLC

By: /s/ Brent E. Binge

Dated: February 14, 2014

Brent E. Binge, General Counsel

JAMES MICHAEL JOHNSTON

/s/ Brent E. Binge

Brent E. Binge, Attorney-In-Fact for James Michael Johnston

BRIAN KATZ KLEIN

/s/ Brent E. Binge

Brent E. Binge, Attorney-In-Fact for Brian Katz Klein

Item 10. Certifications.

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.

STEELHEAD PATHFINDER MASTER, L.P.

By: Steelhead Partners, LLC, its Investment Manager

Dated: February 14, 2014 By: /s/ Brent E. Binge

Brent E. Binge, General Counsel

**EXHIBIT LIST**

Exhibit A Joint Filing Undertaking

**EXHIBIT A**

**JOINT FILING UNDERTAKING**

The undersigned, being authorized thereunto, hereby execute this agreement as an exhibit to this Schedule 13G to evidence the agreement of the below-named parties, in accordance with rules promulgated pursuant to the Securities Exchange Act of 1934, to file this Schedule, as it may be amended, jointly on behalf of each of such parties.

STEELHEAD PARTNERS, LLC

By: /s/ Brent E. Binge

Dated: February 14, 2014

Brent E. Binge, General Counsel

STEELHEAD PATHFINDER MASTER, L.P.

By: Steelhead Partners, LLC, its Investment Manager

By: /s/ Brent E. Binge

Brent E. Binge, General Counsel

JAMES MICHAEL JOHNSTON

/s/ Brent E. Binge

Brent E. Binge, Attorney-In-Fact for James Michael Johnston

BRIAN KATZ KLEIN

/s/ Brent E. Binge

Brent E. Binge, Attorney-In-Fact for Brian Katz Klein