



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

Mail Stop 3720

March 3, 2010

Mr. Carl Russo
President and Chief Executive Officer
Calix Networks, Inc.
1035 N. McDowell Blvd.
Petaluma, CA 94954

Re: Calix Networks, Inc.
Amendment No. 5 to Form S-1
Filed February 26, 2010
File No. 333-163252

Dear Mr. Russo:

We have reviewed your amended filing and have the following comment. Where indicated, we think you should revise your document in response to this comment. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

We welcome any questions you may have about our comment or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Management's Discussion and Analysis....page 37

Significant Factors, Assumptions and Methodologies Used in Determining Fair Value, page 42

1. We continue to repeat comment one from our letter dated January 8, 2010. We note your response to comment nine from our letter dated December 17, 2009. We may have further comments after we review your discussion of the reasons for any variance between your common stock valuation and the expected initial public offering price.

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Mr. Carl Russo
Calix Networks, Inc.
March 3, 2010
Page 2

As appropriate, please amend your registration statement in response to this comment. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comment and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and response to our comment.

You may contact Sharon Virga, Staff Accountant, at (202) 551-3385, or Dean Suehiro, Senior Accountant, at (202) 551-3384 if you have questions regarding comments on the financial statements and related matters. Please contact Jay Knight, Staff Attorney, at (202) 551-3370, Kathleen Krebs, Special Counsel, at (202) 551-3350, or me at (202) 551-3810 with any other questions.

Sincerely,

Larry Spigel
Assistant Director

cc: by facsimile to (650) 463-2600
Patrick A. Pohlen, Esq.
(Latham & Watkins LLP)