



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3720

December 17, 2009

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

**Re: Calix Networks, Inc.
Registration Statement on Form S-1
Filed November 20, 2009
File No. 333-163252**

Dear Mr. Russo:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. 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.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General

1. Please be advised that you should include the price range, the size of the offering, and all other required information in an amendment to your Form S-1 prior to any distribution of preliminary prospectuses so that we may complete our review. Note that we may have additional comments once you have provided this disclosure. Therefore, please allow us sufficient time to review your complete disclosure prior to any distribution of preliminary prospectuses.

2. As soon as practicable, please furnish to us a statement as to whether or not the amount of compensation to be allowed or paid to the underwriter(s) has been cleared with FINRA. Prior to the effectiveness of this registration statement, please provide us with a copy of the letter or a call from FINRA informing us that FINRA has no additional concerns.
3. We encourage you to file all exhibits with your next amendment or otherwise furnish us drafts of your legality opinion and underwriting agreement. We must review these documents before the registration statement is declared effective, and we may have additional comments. Furthermore, we remind you to provide us with sufficient time to review any requests for confidential treatment you may be submitting in connection with the filing of your exhibits.
4. We note on page F-37 that you have taken a full valuation allowance in computing your deferred income taxes. Please review your filing and include appropriate disclosures that discuss robustly and in detail why management believes that it is more likely than not that Calix will not be sufficiently profitable to utilize any portion of the \$408.2 million of net operating losses that will expire over 2010 through 2027. This would indicate that management believes that the losses will continue through 2027.

Prospectus Summary, page 1

Our Company, page 1

5. We note your statement that you are “a leading provider of communications access systems and software that enable communications service providers...to connect to their residential and business subscribers.” Please revise this statement to disclose that it is your belief and the basis for your belief. In this regard, indicate the measure by which you determined that you are a leading provider, be it based on revenues, market share, or some other standard.
6. In the fourth paragraph on page 1, please balance your disclosure regarding your increased revenues with quantified disclosure of your net losses for the same periods.

Use of Proceeds, page 29

7. Please revise to more specifically identify and quantify your intended use of the net proceeds from this offering. Also provide additional details about the ways you may use the proceeds for “other general corporate purposes.”

Selected Financial Data, page 35

8. Please present a pro forma balance sheet data column giving effect to the automatic conversion of your convertible preferred stock and the reclassification of your preferred stock warrant liability. We note the presentation and footnote (1) on page 6.

Management's Discussion and Analysis..., page 36

Significant Factors, Assumptions and Methodologies Used in Determining Fair Value, page 41

9. Please discuss the reasons for any variance between your common stock valuation and the expected initial public offering price. In addition, disclose the reason you chose not to obtain a contemporaneous valuation by an unrelated valuation specialist.
10. Please refer to your July 2009 discussion on page 43. Please tell us and disclose how you considered the issuance of your Series J convertible preferred stock in determining the fair market value of your common stock of \$3.49. We note that the preferred stocks were issued to related parties.

Impairment of Goodwill, Intangible Assets and Other Long-Lived Assets, page 45

11. Please expand your goodwill discussion to disclose that goodwill is not at risk of failing the first step.

Results of Operations, page 47

Overview

12. Please expand your MD&A to address any known trends, events, or uncertainties that could have a material favorable or unfavorable impact on revenues or income from operations in the future. For example, we note:
 - revenue deferrals related to partially delivered product orders, special customer arrangements and ratably recognized services totaled \$39.5 million as of September 26, 2009;
 - for the quarter ended September 26, 2009, you realized an increase in orders from the prior two quarters from a large portion of your customers and a significant increase from one of your largest customers;

- you disclose on page 78 that award grants under the Broadband Stimulus programs are expected to be issued between November 2009 and September 2010; and
- you disclose on page 58 that the revised guidance related to ASC Topic 605-25 will have a “significant impact” on your financial statements due to the fact that your products consist of tangible products with essential software elements.

Liquidity, page 84

13. We note your belief that your existing cash, cash equivalents and marketable securities and existing amounts available under your revolving line, “together with the net proceeds we expect to raise in our initial public offering,” will be sufficient to meet your anticipated cash needs for “at least the next twelve months.” Please also discuss whether the company has sufficient liquidity for the next 12 months in absence of the proceeds raised in the offering. Also, provide a more detailed discussion of your ability to meet your long-term liquidity needs. We consider “long-term” to be the period in excess of the next twelve months. See Section III.C. of Release No. 33-6835 and footnote 43 of Release No. 33-8350. In addition, revise to quantify your material short-term and long-term liquidity requirements, to the extent practicable.

Business, page 61

The Calix Solution, page 64

14. In the second sentence of the subsection titled “High Capacity and Operational Efficiency” on page 65, you state that your “portfolio includes platforms that are among the highest capacity in the industry.” Please disclose the support for this statement.

Our Strategy, page 66

15. We note the use of a study from Broadband Properties Magazine. Please supplementally provide us with this study, and clearly mark the applicable portion or section containing the statistic. Also, tell us whether you commissioned this source. Please provide us with similar supplemental information for any other third-party statements, data, or statistics used in your prospectus.

Products and Terminology, page 69

16. Please enlarge the graphic representations on pages 70 and 75, as the current graphics are difficult to read. Also, for the graphic on page 70, please include a brief explanation of the processes involved. In this regard, the representation as currently written is highly technical and may be difficult for investors to understand.

Executive Compensation, page 88

Compensation Discussion and Analysis, page 88

Competitive Market Review, page 89

17. You disclose in the carryover paragraph on pages 89-90 that you benchmark base salary and cash incentives to a peer group of companies. Please clarify if this peer group of companies is the same as the peer group of companies that you use to benchmark long-term equity incentives. If the peer groups are different, please identify the companies that you used to benchmark base salary and cash incentives.
18. We note your disclosure on page 92 stating the Compensation Committee established a performance goal for Mr. Colvin for the fiscal year ended 2008 based on the "value of bookings." In addition, we note your disclosure stating that the bookings target was set at a level your executive management team felt would be difficult for Mr. Colvin to obtain. Please revise to disclose this performance target. In the alternative, provide us in your response letter with a detailed analysis as to why disclosure of the exact numerical bookings target will result in substantial competitive harm consistent with Instruction 4 to S-K Item 402(b).

Certain Relationships and Related Transactions, page 115

19. Please disclose the material terms of the Series H, I and J convertible preferred stock.

Audited Financial Statements

Balance Sheets, page F-3

20. Please add a dash in the pro forma column next to "Preferred stock warrant liabilities."

Notes to Audited Financial Statements

1. Organization and Significant Accounting Policies

Unaudited Interim Financial Information, page F-8

21. Please expand to disclose that “all adjustments necessary” are normal recurring nature. If not, disclose the nature of the nonrecurring adjustments.

Revenue Recognition, page F-9

22. Please discuss in detail the revenue arrangements that have resulted in deferred revenue, the lack of VSOE and arrangements with extended terms. We note your disclosures on page 37. Quantify the amounts that have been deferred for each type of arrangement. Tell us your payment history regarding customers that have been given extended terms. Tell us why you believe that extended terms are not fixed and determinable. Tell us if you always give these customers extended terms and if not, tell us the reasons for granting these terms.

Credit Risk and Inventory Supplier Concentrations, page F-11

23. We note that one customer, Century Tel, accounted for 46% of your accounts receivable at September 26, 2009 but only accounted for 30% of revenue. Please explain this significant difference and discuss in detail, your prospects of collecting these accounts receivable.

2. Business Combination

Goodwill and Intangible Assets

Existing Technologies, page F-20

Customer Contracts and Lists, page F-20

24. We note that for both of these groups of assets a weighted average estimated useful life of five years is used for amortization purposes. Please expand your disclosure to clarify how these useful lives have been computed. Please tell us why you believe the straight-line method is the appropriated amortization method.

Exhibit Index

25. Please confirm that there is no agreement between CenturyLink and Calix Networks that is required to be filed pursuant to Regulation S-K Item 601(b)(10).

26. We note that you have not filed the “Confidential Information and Invention Assignment Agreement” listed as an attachment to exhibits 10.8 through 10.13. Please re-file these exhibits in full, including all attachments, as the attachments are not permitted to be excluded under Regulation S-K Item 601(b)(10).

* * *

As appropriate, please amend your registration statement in response to these comments. 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 comments 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 responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company’s disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the

Mr. Carl Russo
Calix Networks, Inc.
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Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Sharon Virga, Staff Accountant, at (202) 551-3385 or Kyle Moffatt, Accountant Branch Chief, at (202) 551-3836 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 Spirgel
Assistant Director

cc: by facsimile
Patrick A. Pohlen, Esq.
(Latham & Watkins LLP)