



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3720

March 11, 2010

Via US Mail and Facsimile: (978) 250-2994

Daniel E. Smith
President and Chief Executive Officer
Sycamore Networks, Inc.
220 Mill Road
Chelmsford, MA 01824

**Re: Sycamore Networks, Inc.
Form 10-K for Fiscal Year Ended July 31, 2009
Filed September 29, 2009
File No. 000-27273**

Dear Mr. Smith:

We have reviewed your filing and have the following comments. If you disagree with a comment, we will consider your explanation as to why it is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation.

Please comply with our comments in future filings. Confirm in writing that you will do so and also explain to us how you intend to comply. Please do so within the time frame set forth below. Please understand that after our review of your responses, 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.

Form 10-K for the year ended July 31, 2009

Definitive Proxy Statement Incorporated by Reference Into Part III

Compensation Discussion and Analysis, page 12

1. We note your statement on page 19 that you do not disclose revenue or income targets with respect to your performance-based bonuses because of the competitive nature of this information. We believe that disclosure of these targets after a fiscal year-end, at the time when you are required to provide disclosure on executive compensation pursuant to Item 402 of Regulation S-K, would not generally result in competitive harm. In future filings, please disclose these targets to the extent they remain a material component of your compensation policies. Also disclose how actual performance, indicating any material adjustments from the amounts reported in your financial statements, compared to the targets. If you disagree, please provide a detailed analysis of your basis for not disclosing the targets.

Outstanding Equity Awards at Fiscal Year-End, page 30

2. In future filings, disclose in a footnote the vesting dates for each outstanding award that is unvested. We note your general disclosure about vesting schedules, but without accompanying disclosure of grant dates for each award investors are unable to readily determine vesting dates. Refer to Instruction 2 to Item 402(f)(2) of Regulation S-K.

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Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please file your letter over EDGAR. Please understand that we may have additional comments after reviewing your responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings reviewed by the staff to be certain that they have provided all information investors require for an informed 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.

In connection with responding to our comment, please provide, in writing, a statement from the company acknowledging that

- the company is responsible for the adequacy and accuracy of the disclosure in the

Daniel E. Smith
Sycamore Networks, Inc.
March 11, 2010
Page 3

filings;

- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; and
- the company may not assert staff comments 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 our review of your filings or in response to our comments on your filings.

Please contact John Harrington, Staff Attorney, at (202) 551-3576 or me at (202) 551-3354 with any other questions.

Sincerely,

/s/ Robert Bartelmes
Senior Financial Analyst