

Mail Stop 6010

April 11, 2007

Syed B. Ali  
President and Chief Executive Officer  
Cavium Networks, Inc.  
805 East Middlefield Road  
Mountain View, CA 94043

**Re: Cavium Networks, Inc.  
Amendments Nos. 2 and 3 to Registration Statement on Form S-1  
Filed April 4, 2007 and April 6, 2007, respectively  
Registration No. 333-140660**

Dear Mr. Ali:

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 allow sufficient time in your offering schedule for resolution of additional comments after you complete the information not yet included in your registration statement, including all required exhibits.

Prospectus Summary, page 1

2. Please tell us whether you have any information about your financial position as of, or your results of operations for, your last completed quarter that would be material to your investors.

Experts, page 92

3. We note the filing of the consent of Duff & Phelps in response to prior comment 6. Please revise the filing to name the independent valuation expert in the "Experts" section.

Consolidated Financial Statements

Note 9. Mandatorily Redeemable Convertible Preferred Stock and Stockholder's Equity, page F-18

Stock Options and Unvested Stock, page F-21

4. We reference your disclosure on page F-23 that the estimated weighted-average grant date fair value of options granted during the twelve months ended December 31, 2006 was \$1.06. We also see that the chart on the same page discloses a range of \$1.76 to \$3.70 for the fair value of common stock per share for options granted during 2006. Please reconcile these two disclosures.

Note 14. Reverse Stock Split (unaudited), page F-27

5. We see that your Board of Directors approved a 1-for-2 reverse stock split on March 29, 2007, to be effective upon filing of an amendment to your certificate of incorporation before the effectiveness of the registration statement. Please tell us your consideration of SAB Topic 4-C which states that if a capital structure change to a stock dividend, stock split or reverse split occurs after the date of the latest reported balance sheet but before the release of the financial statements or the effective date of a registration statement, such changes in the capital structure must be given retroactive effect in the balance sheet.

Exhibits

6. We note your reference to an application for confidential treatment of information omitted from your exhibits. We will provide any comments on your application separately. Comments on your application must be resolved and the application complete before you request acceleration of the pending registration statement.

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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 direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any registration statement 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 Kristin Lochhead at (202) 551-3664 or Brian Cascio at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Tim Buchmiller at (202) 551-3635 or me at (202) 551-3617 with any other questions.

Sincerely,

Russell Mancuso  
Branch Chief

cc (via fax): Vincent P. Pangrazio, Esq.