



DIVISION OF
CORPORATION FINANCE

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

May 19, 2011

Mr. Arthur Chadwick
Chief Financial Officer
Cavium Networks, Inc.
805 East Middlefield Road
Mountain View, CA 94043

Re: Cavium Networks, Inc.
Form 10-K for the fiscal year ended December 31, 2010
Filed February 28, 2011
File No. 001-33435

Dear Mr. Chadwick:

We have reviewed your response dated May 17, 2011 and related filings and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Mr. Arthur Chadwick
Cavium Networks, Inc.
May 19, 2011
Page 2

Form 10-K for the fiscal year ended December 31, 2010

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 37

Critical Accounting Policies and Estimates, page 40

Accounting for Income Taxes, page 43

1. In light of the significance of deferred income assets taxes to your total assets and the significance of the benefit recognized in 2010, in future filings, please more specifically describe your rationale for releasing the valuation allowance for U.S. Federal income taxes, consistent with your response to prior comment 2.

Item 8. Financial Statements

Note 9. Income Taxes, page 85

2. In future filings please disclose the approximate tax effect of each of the temporary differences and carry-forwards comprising deferred income tax assets and liabilities reported in the balance sheet. Refer to FASB ASC 740-10-50-6.

You may contact Leigh Ann Schultz at (202) 551-3628 or Gary Todd at (202) 551-3605 if you have questions regarding these comments. You may also contact me at (202) 551-3676 with any other questions.

Sincerely,

for

Brian Cascio
Accounting Branch Chief