

Mail Stop 6010

January 26, 2007

Michael Gray
Chief Financial Officer
Mellanox Technologies, Ltd.
2900 Stender Way
Santa Clara, California 95054

**Re: Mellanox Technologies, Ltd.
Amendment No. 3 to Registration Statement on Form S-1
Filed January 16, 2007
Amendment No. 4 to Registration Statement on Form S-1
Filed January 22, 2007
Registration No. 333-137659**

Dear Mr. Gray:

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.

Annual Discretionary Incentive Cash Bonus, page 71

1. We note that the bonuses paid during 2006 were paid from the 2005 bonus pool. As such, please discuss how the aggregate amount under the 2005 bonus pool was determined. We also note your disclosure that historically, the percentage of the bonus pool payable to each named executive officer and other employees was determined based on his or her base salary as a percentage of the aggregate salaries paid to all named executive officers and employees. Given this

disclosure, please discuss the reasons why your principal executive officer did not receive a portion of the 2005 bonus pool in 2006.

Exhibit 5.1

2. Revise the legality opinion to remove assumptions regarding conclusions of law that are a necessary requirement of the ultimate opinion provided. We note, for example, the assumptions regarding the proper preparation of all consents, minutes and protocols of meetings of the company's board of directors and shareholders meetings in accordance with the company's incorporation documents and all applicable laws.
3. Given the date restriction at the end of the first sentence on page 2, please file an opinion that is dated on the date that the registration statement is to be declared effective.
4. We refer to the language in the last paragraph of the opinion. An opinion should not contain any conditions that would restrict, or could be interpreted as restricting, an investor's ability to enforce their rights in the United States under United States securities laws. As such, please remove the language which follows "This opinion shall be governed by the laws of the State of Israel."

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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.

Michael Gray
Mellanox Technologies, Ltd.
January 26, 2007
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You may contact Kevin Kuhar at (202) 551-3662 or Angela Crane at (202) 551-3554 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) 551-3800 with any other questions.

Sincerely,

Peggy A. Fisher
Assistant Director

cc (via fax): Alan C. Mendelson, Esq.
Mark V. Roeder, Esq.
Kathleen M. Wells, Esq.