



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-0303

Mail Stop 4561

September 15, 2006

Andrew D. Ory
Acme Packet, Inc.
71 Third Avenue
Burlington, Massachusetts 01803

Re: **Acme Packet, Inc.**
Amended Form S-1
Filed September 7, 2006
File No. 333-134683

Dear Mr. Ory,

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.

Form S-1

General

1. We refer you to the four news articles previously posted on your website during registration that discussed the business of Acme Packet and/or its prospective IPO. Please revise to disclose your proposed risk factor to address the potential impact of these postings. Also, please provide us with a SFAS 5 analysis as to whether a subsequent events footnote is required to be included in your financial statements.

Principal and Selling Stockholders, page 85

2. We note your response to prior comment 43 of our letter dated June 29, 2006 and comment 25 of our comment letter dated August 31, 2006. Please revise to disclose the natural persons exercising voting and dispositive power over the shares beneficially owned by TC Upside, LLC and Unitech Computer Systems, Ltd.

Stock-Based Compensation, pages 38 – 43

3. We note your response to prior comment number 29 and have the following comment. Explain why each guideline company was chosen as a basis for calculating your multiplier and indicate how they are comparable to your company. Describe, in greater detail, the reasons why you apply the discount for lack of marketability to the entire value. Further, it appears that private company scenario valuation methodology inherently factors in the lack of marketability. That is, the methodology employed appears to be establishing the fair value of a private company and not a freely traded share that would require a discount. The probability for each scenario further appears to also address the effect that the company is a privately owned. In addition, provide an analysis that supports the size of the discount taken at each valuation report. The discount used in the December and March Valuations appear large.

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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 Rule 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 Tammy Tangen at (202) 551-3443 or Stephen Krikorian at (202) 551-3488 if you have questions regarding comments on the financial statements and

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related matters. Please contact Jeffrey Werbitt at (202) 551-3456, Anne Nguyen Parker at (202) 551-3611, or me at (202) 551-3462 with any other questions.

Sincerely,

Mark P. Shuman
Branch Chief – Legal

cc: Julio E. Vega, Esquire
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