

Mail Stop 4561

August 1, 2007

Mr. Robert H. Reback
Cimetrix Incorporated
6979 South High Tech Drive
Salt Lake City, Utah 84047-3757

Re: Cimetrix Incorporated
Form 10-K for the year ended December 31, 2006
Filed April 2, 2007
File No. 0-16454

Dear Mr. Reback:

We have reviewed the above referenced filing and have the following comments. Please note that we have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your document. 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 supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not 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 DECEMBER 31, 2006

Consolidated Statements of Operations, page F-5

1. Please be advised that where there is a lack of vendor specific objective evidence ("VSOE") of fair value among arrangement elements, SOP 97-2 prohibits separation of the elements within the total arrangement fee for recognition purposes. Statement of operations presentation that includes separate revenue and related cost of revenue line items for product and services (following Rule 5-

03(b) of Regulation S-X) that make up bundled arrangements may be appropriate where the elements are separable because you have VSOE of fair value for the undelivered elements, and your accounting conforms to paragraph 12 of SOP 97-2. In future filings ensure that your statement of operations presentation of separate product and service revenues and cost conforms to the foregoing authoritative accounting literature. Include a footnote description to inform investors of the nature of any product and service revenue and cost elements which must remain bundled as a single line presentation because of the inability to separate them under SOP 97-2 for recognition purposes.

Note 2 – Stock-Based Compensation, page F-15

2. We read that you adopted the fair value recognition provisions of SFAS 123R using the modified prospective method effective January 1, 2006. However, it is unclear that your accounting and disclosures for awards issued during 2006 comply with the requirements of SFAS 123R. For example, given your statement on page 22 that you have calculated the fair value of stock options using the Black-Scholes valuation model, it is unclear why your disclosures in this footnote provide the aggregate intrinsic value of stock options issued in 2006 rather than the grant date fair value using the Black-Scholes model. Additionally, you do not appear to have provided all disclosures indicated by paragraphs A240 and A241 of SFAS 123R for stock options granted or for restricted stock granted in 2006. Please revise future filings to clarify your accounting for stock-based compensation and ensure that you provide all applicable disclosures under SFAS 123R.

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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 submit all correspondence and supplemental materials on EDGAR as required by Rule 101 of Regulation S-T. If you amend your filing, you may wish to provide us with marked copies of any amendment to expedite our review. Please furnish a cover letter 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 any amendment and your responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment 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.

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In connection with responding to our comments, 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 filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; 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 filing or in response to our comments on your filing.

You may contact Jennifer Thompson, Staff Accountant, at 202-551-3737, or me at 202-551-3226 if you have questions regarding the above comments.

Sincerely,

Craig Wilson
Senior Assistant Chief Accountant