

Mail Stop 4561

April 22, 2009

ReiJane Huai
President and Chief Executive Officer
FalconStor Software, Inc.
2 Huntington Quadrangle, Suite 2S01
Melville, New York 11747

**Re: FalconStor Software, Inc.
Form 10-K for Fiscal Year Ended December 31, 2008
Filed March 12, 2009
Form 8-K Filed February 5, 2009
File No. 000-23970**

Dear Mr. Huai:

We have reviewed the above-referenced filings and have the following comments. If 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 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 Fiscal Year Ended December 31, 2008

Item 1. Business

Major Customers, page 12

1. We note that EMC Corporation and Sun Microsystems accounted for 20% and 13%, respectively, of your total revenues in 2008. A description of your contractual arrangements with these customers appears warranted. Also, you do not appear to have filed any contracts with these customers. Please advise

whether you are substantially dependent upon any of your agreements with these customers for purposes of Item 601(b)(10)(ii)(B) of Regulation S-K.

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

Results of Operations—For the Year Ended December 31, 2008 Compared With December 31, 2007

Revenues

Software License Revenues, page 34

2. We note you attribute your increase in software license revenues to “broader market acceptance of [y]our software applications, new product offerings and increased demand for [y]our products from [y]our expanding base of customers.” Please tell us what consideration you gave to providing additional analysis of the extent to which changes in prices and volume impacted your revenues as well as quantifying the impact of each factor you identified as giving rise to the changes in your revenues. See Item 303(a)(3)(iii) of Regulation S-K and Section III.D of SEC Release 33-6835.

Item 8. Financial Statements and Supplementary Data

Note 1. Summary of Significant Accounting Policies

(f) Revenue Recognition, page 55

3. You state on page 31 that you have instituted incentive programs intended to increase sales by your resellers. Please tell us more about the nature, accounting and amounts of these incentives for the periods included in the filing; how you considered the impact of such incentives on your revenue recognition; and how your revenue recognition policy addresses these incentives.

Note 8. Share-Based Payment Arrangements, page 69

4. We note your statement on page 72 that you estimate volatility based primarily on historical daily volatility and other factors, if applicable. Please clarify for us the other factors you use in estimating volatility and how these factors impacted your volatility assumptions in the years presented.

Note 14. Valuation and Qualifying Accounts - Allowance for Returns and Doubtful Accounts

5. We note the deductions from your allowance for returns and doubtful accounts increased significantly in fiscal 2008 versus fiscal 2007. Please explain to us in reasonable detail what caused this change. As part of your response, tell us how you considered whether the increase in deductions from your allowance account had any impact on your revenue recognition and provide us with the individual components of the charges and deductions for both sales returns and doubtful accounts in each of the years presented.
6. In addition, please tell us if the increase in deductions represents a known trend, event, or uncertainty which is reasonably likely to have a material effect on your future results of operations or financial position and how you considered discussing this fact in your MD&A pursuant to Item 303(a)(3)(ii) of Regulation S-K.

Note 15. Quarterly Financial Data (Unaudited), page 77

7. We note your presentation of quarterly financial data does not present a measure of gross profit. Please tell us how you have considered Item 302(a)(1) of Regulation S-K.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures, page 78

8. We note that your principal executive officer and principal financial officer have concluded that your disclosure controls and procedures are “effective.” However, we also note your statement that “any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives.” Given this statement regarding the limits of the effectiveness of your disclosure controls and procedures, your disclosure should state clearly, if true, that your principal executive officer and principal financial officer concluded that your disclosure controls and procedures were effective at the reasonable assurance level as of the end of the period covered by the report. Please confirm that you will include similar disclosure in the future or, in the alternative, that you will remove the reference to the level of assurance of your disclosure controls and procedures. Please refer to Section II.F.4 of Management’s Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, SEC Release No. 33-8238, available on our website at <http://www.sec.gov/rules/final/33-8238.htm>.

Internal Control Over Financial Reporting

Management's Report on Internal Control Over Financial Reporting, page 78

9. Please revise future filings to include a statement that your registered public accounting firm has issued an attestation report on your internal control over financial reporting. See Item 308(a)(4) of Regulation S-K.
10. You do not appear to have included the information required by Item 308(c) of Regulation S-K in your Form 10-K. Please tell us whether or not there were changes in your internal controls over financial reporting during last fiscal quarter that have materially affected or are reasonably likely to materially affect the company's internal controls over financial reporting. In addition, please confirm that you will include in your future periodic reports the information required by Item 308(c) of Regulation S-K.

Item 10. Directors, Executive Officers and Corporate Governance, page 79

11. You do not appear to have disclosed in your Form 10-K or in your definitive proxy statement filed on April 6, 2009 whether you have adopted a code of ethics that applies to your principal executive, financial and accounting officers, as required by Item 406 of Regulation S-K. Please advise.

Item 15. Exhibits and Financial Statement Schedules

(b) Exhibits, page 80

12. Please tell us what consideration you gave to including an exhibit listing all of your subsidiaries pursuant to Item 601(b)(21) of Regulation S-K.

Exhibits 31.1 and 31.2

13. We note that the lead sentence of the certifications includes the title of the certifying officer and the company name. Please note that the certifications must be provided in the exact form set forth in Item 601(b)(31) of Regulation S-K. Please ensure that in future filings the title of the certifying officer and the company name are removed from the opening line of each certification.

Part III. Information incorporated by reference from the Definitive Proxy Statement filed April 6, 2009

Director Compensation, page 12

14. You disclose in this section that the company amended its 2007 Outside Directors Equity Compensation Plan in 2008 to require that the equity portion of your outside directors' compensation be paid in the form of restricted stock rather than a combination of restricted stock and stock options. You indicate that your compensation committee determined that it could best serve the goals of attracting and retaining qualified directors and aligning their interests with those of your stockholders through making this change. Given this determination by your compensation committee, please explain why your board of directors chose to make the equity grants awarded on March 26, 2009 to your outside directors in the form of stock options rather than restricted stock.

Executive Compensation

A. Compensation Discussion and Analysis

Roles and Responsibilities, page 15

15. You disclose in this section that your CEO reviews the performance of your other NEOs and makes recommendations regarding their compensation to the compensation committee. You later indicate that company management provides reviews and recommendations regarding executive compensation to your compensation committee. Please clarify the roles of your named executives, other than your CEO, in the compensation process. For example, if your compensation committee consults with executives other than your CEO regarding compensation, please identify those executives and discuss the types of information they provide to the compensation committee. See Item 402(b)(2)(xv) of Regulation S-K. Please confirm that you will provide this disclosure in your future filings.
16. We note your disclosure that the compensation committee reviews and considers "tally sheets" that set out all the components of your NEOs' compensation in making compensation decisions. Please tell us how and why your compensation committee found the tally sheets useful in determining the various elements of compensation for the NEOs. For example, tell us whether the tally sheets are used to determine where an individual executive officer's compensation falls in relation to the benchmarks set by the company and whether adjustments were

made to compensation based on such analysis. The committee's analysis of the tally sheets and how that analysis resulted in specific awards should be described in complete detail. Please confirm that you will provide this disclosure in your future filings.

Consultants and Benchmarking, page 16

17. Your disclosure indicates that you try to target base salaries and total compensation at the median level for your peer group. Please identify the companies that comprise this peer group. See Item 402(b)(xiv) of Regulations S-K and Question 118.05 of our Regulation S-K Compliance and Disclosure Interpretations, available on our website. Please confirm that you will provide similar disclosure in your future filings.

Elements of Compensation

Base Salary, page 17

18. You indicate in this section that the base salaries of your NEOs may be adjusted to take into account performance-based compensation. Please explain in more detail the circumstances under which you may adjust base salaries because of other performance-based compensation and tell us if any such adjustments were made in 2008. Please confirm that you will provide similar disclosure in your future filings.

B. Summary Compensation Table

Other Named Executive Officers, page 21

19. You indicate on page 17 that discretionary bonuses are based on the achievement of strategic and operating goals as well as executives' personal achievements. Please identify the specific items of corporate and individual performance that were used to determine the amount of the bonuses awarded to your NEOs (other than your CEO) in 2008. Also discuss the extent to which the compensation committee exercised any discretion with respect to the bonus payments. See Items 402(b)(2)(v), (vi) and (vii) of Regulation S-K. Please provide quantitative disclosure of all of the terms of the necessary targets or performance objectives to be achieved in order for your executive officers to earn their bonus compensation. See Instruction 4 to Item 402(b) of Regulation S-K. Please confirm that you will provide similar disclosure in your future filings.

Certain Relationships and Related Transactions, page 27

20. You do not appear to have described your policies and procedures for the review and approval of related party transactions, as required by Item 404(b) of Regulation S-K. Please advise.

Form 8-K filed February 5, 2009

21. We note that you refer to your fiscal 2009 forecasted effective tax rate, which excludes stock-based compensation expense, as a “pro forma” tax rate. In addition, we note your statement that the reader should refer to your “ProForma Condensed Consolidated Statements of Operations” for a reconciliation of your GAAP and non-GAAP financial results. Please note that pro forma has a different meaning as defined by generally accepted accounting principles and SEC rules that is significantly different than your use, and confirm that you will remove the reference to “pro forma” as applicable in future filings.

* * * * *

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(s), you may wish to provide us with marked copies of any amendment to expedite our review. Please furnish a cover letter that keys your response 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 response 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.

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

ReiJane Huai
FalconStor Software, Inc.
April 22, 2009
Page 8

- 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 Mark Shannon, Staff Accountant, at (202) 551-3299 if you have any questions regarding comments on the financial statements and related matters. Please address questions regarding all other comments to Matthew Crispino, Staff Attorney, at (202) 551-3456 or Barbara C. Jacobs, Assistant Director at (202) 551-3730. If you need further assistance, you may contact me at (202) 551-3226.

Sincerely,

Craig Wilson
Sr. Asst. Chief Accountant