

Mail Stop 4561

May 31, 2007

Frank Sloodman
President and Chief Executive Officer
Data Domain, Inc.
2300 Central Expressway
Santa Clara, CA 95050

**RE: Data Domain, Inc.
Registration Statement on Form S-1/A
File No. 333-141716
Date Filed: May 15, 2007**

Dear Mr. Sloodman:

We have reviewed your amended filing and have the following comments.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Policies and Estimates

Stock-Based Compensation, pages 35 – 37

1. We note your responses to comments 8, 38, 39, and 40 of our letter dated April 27, 2007 and that you have not provided us with a proposed IPO price. Our assessment of your stock compensation plan disclosures is, in part, dependent upon this information. Please understand that once this information is provided to us we may have further comments regarding your equity instrument valuations.
2. We note your response and revised disclosures surrounding the discussion of the valuations provided by Duff & Phelps, LLC, in response to comment 9 of our letter dated April 27, 2007. We note that disclosures throughout your document (for example, but not limited to, pages 36, 72, 73, and F-10) appear to refer to third-party valuations obtained prior to your engagement of Duff & Phelps.

References to such valuations in the registration statement should include an identification of the third-party valuation firm in the registration statement and require consent pursuant to Rule 436(b) of Regulation C. Revise to provide this information or remove all such references.

Executive Compensation, page 75

3. We note your revisions in response to comment 26 of our letter dated April 27, 2007 and the utilization of disclosure that is not consistent with the requirements of paragraphs (f) and (g) of Item 402 of Regulation S-K. It is not appropriate to use an additional column in the Outstanding Equity Awards at 2006 Fiscal Year-End table indicating the number of unvested exercised option shares outstanding at December 31, 2006 (column (d)). Similarly inappropriate is the present use of column (d) in the 2006 Option Exercises and Stock Vested table. It is sufficient to provide textual or footnote disclosure that quantifies the number of shares that the named executive officer acquired upon vesting of each award and specifies that the stock acquired on exercise of options and vested stock relate to the same award. Please revise.

Principal and Selling Stockholders, page 93

4. We reissue comment 31 of our letter dated April 27, 2007. We would expect to see a discussion of the facts that gave rise to issuance of shares by Data Domain to Quantum. In this regard, according to disclosure in management's discussion and analysis and the notes to the financial statements, it appears that Data Domain received an inquiry in the fourth quarter of 2006 regarding possible infringement of a Quantum patent and it was this that gave rise to the stock issuance, a cash settlement, and the entering of a cross-license with the selling stockholder. Please revise as appropriate or otherwise advise of the material facts surrounding the stock issuance to Quantum. See Item 507 of Regulation S-K.

Consolidated Statements of Operations, page F-4

5. We note your responses to comments 33 and 34 of our letter dated April 27, 2007 and have the following additional comments:
 - a. In 2004 all revenue was recognized on a ratable basis and is reflected in a single line item, ratable product and related support and services revenue. In 2004 you have reflected costs not only in this line item but also in costs of product and costs of support and services. With regard to product costs, we note that a portion of the product cost appears to result from the amortization of evaluation units and the expensing of spare parts, as discussed on page F-13. Tell us the nature, and amount of each type of

cost included in the product cost line item. For 2004, explain why these costs do not represent costs of revenue recognized on a ratable basis. Clarify whether any indirect overhead costs are allocated to finished goods inventory.

- b. Similarly, tell us the nature of the costs classified in costs of services and support. Tell us why you do not believe that all of these costs in 2004 were attributable to performance under arrangements for which revenue is being recognized ratably.
- c. Tell us how you determine the amounts of cost of revenue to be classified in the ratable product and related support and services line items and the nature of these costs. Clarify whether deferred inventory costs, as described on page F-7, are included in this line item and whether your recognition of deferred product inventory costs corresponds to the same period over which the related revenue is recognized.

Part II – Information Not Required in Prospectus

Exhibits

- 6. Refer to comment 42 of our letter dated April 27, 2007. We understand that the voting agreement will terminate upon the closing of this offering yet we continue to believe that the voting agreement, which is currently in effect, is material to the understanding of the nature of the relationship between the parties.

Recent Sales of Unregistered Securities

- 7. We note your supplemental response to comment 43 of our letter dated April 27, 2007. Please disclose in your Item 26 disclosure that the issuances were made to accredited investors.

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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 supplemental 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 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 Jason Niethamer at (202) 551-3855 or Tamara Tangen at (202) 551-3443 if you have questions regarding comments on the financial statements and related matters. Questions on other disclosure issues may be directed to Jay Ingram at (202) 551-3397. If you require further assistance, please contact me at (202) 551-3730.

Sincerely,

Barbara C. Jacobs
Assistant Director

cc. David Kling
by facsimile at 650-321-2800

