

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Pre-Effective Amendment No. 2
to
FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

PDF SOLUTIONS, INC.

(Exact name of registrant as specified in its charter)

Delaware
*(State or other jurisdiction of
incorporation or organization)*

25-1701361
*(I.R.S. Employer
Identification Number)*

333 West San Carlos Street, Suite 700
San Jose, California 95110
(408) 280-7900

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

John Kibarian, Ph.D.
PDF Solutions, Inc.
333 West San Carlos Street, Suite 700
San Jose, California 95110
(408) 280-7900

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Peter Cohn, Esq.
Orrick, Herrington & Sutcliffe LLP
1000 Marsh Road
Menlo Park, California 94025
(650) 614-7400
(650) 614-7401 (Fax)

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this form is filed to register additional securities for an Offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same Offering.

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same Offering.

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box.

CALCULATION OF REGISTRATION FEE

Title Of Each Class Of Securities To Be Registered	Amount To Be Registered	Proposed Maximum Offering Price Per Unit (1)	Proposed Maximum Aggregate Offering Price (1)	Amount Of Registration Fee
Common Stock, par value \$0.001	271,531	\$11.64	\$3,160,620.84	\$97.03(2)

(1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(c) under the Securities Act of 1933 based upon the average of the high and low prices of the Common Stock as reported on the Nasdaq National Market on June 15, 2007.

(2) Previously paid.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to such Section 8(a), may determine.

EXPLANATORY NOTE:

This Pre-Effective Amendment No. 2 to Form S-3 Registration Statement is being filed solely for the purpose of including a revised opinion of Orrick, Herrington & Sutcliffe LLP, counsel for the Registrant. This Amendment No. 2 does not modify any provision of the Prospectus constituting Part I of the Registration Statement. Accordingly, such Prospectus has not been included herein.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the sale of our common stock being registered. All amounts are estimates except the SEC registration fee.

	<u>Amount to be Paid</u>
SEC registration fee	\$ 97
Printing	\$ 1,000
Legal fees and expenses	\$ 5,000
Accounting fees and expenses	\$ 27,000
Miscellaneous fees and expenses	\$ 500
Total	<u>\$ 33,597</u>

Item 15. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law (the "Delaware Law") authorizes a court to award, or a corporation's Board of Directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising under the Securities Act of 1933, as amended (the "Securities Act"). Our Third Amended Restated Certificate of Incorporation (Exhibit 3.2 to our Registration Statement on Form S-1, filed on July 9, 2001) and our Amended and Restated Bylaws (Exhibit 3.2 to our Quarterly Report on Form 10-Q, filed on August 9, 2005) provide for indemnification of our directors, officers, employees and other agents to the maximum extent permitted by Delaware Law. In addition, we have entered into Indemnification Agreements (Exhibit 10.01 to our Quarterly Report on Form 10-Q, filed on August 9, 2005) with our officers and directors.

Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits

<u>Exhibit No.</u>	<u>Exhibit</u>
2.1	Amended and Restated Agreement and Plan of Reorganization, dated September 2, 2003, by and among PDF Solutions, Inc., IDS Software Acquisition Corp., PDF Solutions, LLC and IDS Software Systems Inc.(1)
2.2	Agreement and Plan of Reorganization, dated May 23, 2007, by and among PDF Solutions, Inc., Fabbrix, Inc. and PDF Acquisition Corp.(2)
3.1	Third Amended and Restated Certificate of Incorporation of PDF Solutions, Inc.(3)
3.2	Amended and Restated Bylaws of PDF Solutions, Inc.(4)
4.1	Specimen Stock Certificate.(5)
4.2	Second Amended and Restated Rights Agreement dated July 6, 2001.(1)
4.3	Stock Purchase Agreement, dated October 25, 2006, by and among PDF Solutions, Inc., the Selling Stockholders of Si Automation, S.A., and Société Générale Asset Management Alternative Investments, as the Stockholders' Representative.(6)
5.1	Opinion of Orrick, Herrington & Sutcliffe LLP
23.1	Consent of Deloitte & Touche LLP, independent registered public accounting firm**
23.2	Consent of KPMG S.A.**
23.3	Consent of Orrick, Herrington & Sutcliffe LLP (included in its opinion filed as Exhibit 5.1 to this Registration Statement)
24.1	Power of Attorney (see page II-4)**

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- (1) Incorporated by reference to Exhibit 2.1 to PDF's Current Report on Form 8-K filed on September 25, 2003.
 - (2) Incorporated by reference to Exhibit 2.01 to PDF's Current Report on Form 8-K filed on May 24, 2007.
 - (3) Incorporated by reference to PDF's Registration Statement on Form S-1, Amendment No. 7 filed July 9, 2001 (File No. 333-43192).
 - (4) Incorporated by reference to PDF's Report on Form 10-Q filed August 9, 2005 (File No. 000-31311).
 - (5) Incorporated by reference to PDF's Report on Form 10-Q filed September 6, 2001 (File No. 000-31311).
 - (6) Incorporated by reference to Exhibit 2.01 to PDF's Current Report on Form 8-K filed on November 3, 2006.
- ** Previously filed in PDF's Registration Statement of Form S-3, filed June 22, 2007 (File No. 333-143989), and incorporated herein by reference.

Item 17. Undertakings

The undersigned Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;
- provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) of this section do not apply if the registration statement is on Form S-3 or Form F-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
 - (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
 - (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of this registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time

of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions referred to in Item 15 above or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted against the Registrant by such director, officer or controlling person in connection with the securities being registered hereunder, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Amendment No. 1 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California, on July 20, 2007.

PDF SOLUTIONS, INC.

/s/ Keith A. Jones

Keith A. Jones

Vice President, Finance and Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints John K. Kibarian and Keith A. Jones, jointly and severally, his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Registration Statement on Form S-3, and to file the same, with exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>
<u>/s/ John K. Kibarian</u> John K. Kibarian	Director, President and Chief Executive Officer (Principal Executive Officer)
<u>/s/ Keith A. Jones</u> Keith A. Jones	Chief Financial Officer and Vice President, Finance (Principal Financial and Accounting Officer)
<u>/s/ Susan Billat</u> Susan Billat	Director
<u>/s/ Thomas Caulfield</u> Thomas Caulfield	Director
<u>/s/ Lucio L. Lanza</u> Lucio L. Lanza	Chairman of the Board of Directors
<u>/s/ Albert Y. C. Yu</u> Albert Y. C. Yu	Director
<u>/s/ R. Stephen Heinrichs</u> R. Stephen Heinrichs	Director
<u>/s/ Kimon Michaels</u> Kimon Michaels	Director

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OPINION OF ORRICK, HERRINGTON & SUTCLIFFE LLP

July 20, 2007
PDF Solutions, Inc.
333 West San Carlos Street, Suite 700
San Jose, California 95110

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

At your request, we are rendering this opinion in connection with the registration of up to 271,531 shares of common stock, \$0.001 par value (the "Common Stock"), of PDF solutions, Inc., a Delaware corporation (the "Company"). These shares of Common Stock were issued to the selling stockholders in connection with the Company's acquisition of Fabbrix, Inc. pursuant to an Agreement and Plan of Reorganization dated May 23, 2007 (the "Merger Agreement").

We have examined instruments, documents, and records which we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed the following: (a) the authenticity of original documents and the genuineness of all signatures; (b) the conformity to the originals of all documents submitted to us as copies; and (c) the truth, accuracy and completeness of the information, representations and warranties contained in the records, documents, instruments and certificates we have reviewed.

Based on such examination, we are of the opinion that the 271,531 shares of Common Stock issued by the Company at closing pursuant to the Merger Agreement are legally issued, fully paid and non-assessable.

We consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to our firm under the caption "Legal Matters" in the prospectus included in the Registration Statement.

Very truly yours,

/s/ ORRICK, HERRINGTON
& SUTCLIFFE LLP