

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT UNDER
THE SECURITIES ACT OF 1933

ASPEN TECHNOLOGY, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation or
organization)

7371
(Primary Standard Industrial
Classification Code Number)

04-2739697
(I.R.S. Employer
Identification Number)

200 Wheeler Road
Burlington, Massachusetts 01803
(781) 221-6400

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

Mark E. Fusco
President and Chief Executive Officer
Aspen Technology, Inc.
200 Wheeler Road
Burlington, Massachusetts 01803
(781) 221-6400

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

Mark L. Johnson, Esq.
Nicole C. Brookshire, Esq.
Cooley LLP
500 Boylston Street
Boston, Massachusetts 02116
(617) 937-2300

Copies to:
Frederic G. Hammond, Esq.
Senior Vice President and General Counsel
Aspen Technology, Inc.
200 Wheeler Road
Burlington, Massachusetts 01803
(781) 221-6400

Stuart M. Cable, Esq.
Jocelyn M. Arel, Esq.
Michael J. Minahan, Esq.
Goodwin Procter LLP
Exchange Place
Boston, Massachusetts 02109
(617) 570-1000

Approximate date of commencement of proposed sale to public: As soon as practicable after this registration statement becomes effective.

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 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. 333-168409

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 this Form is a post-effective amendment filed pursuant to Rule 462(d) 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.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer
(Do not check if a
smaller reporting company)

Smaller reporting company

Calculation of Registration Fee

| Title of Each Class of Securities to be Registered | Amount to be Registered(1) | Proposed Maximum Offering Price Per Unit(2) | Proposed Maximum Aggregate Offering Price(2) | Amount of Registration Fee(3) |
|--|----------------------------|---|--|-------------------------------|
| Common stock, \$0.10 par value per share | 3,450,000 shares | \$9.00 | \$31,050,000 | \$2,213.87 |

- (1) Includes 450,000 shares subject to the underwriters' over-allotment option.
 - (2) Based on the per share public offering price of the common stock.
 - (3) The registrant previously registered an aggregate of \$188,542,500 worth of its common stock on a registration statement on Form S-1 initially filed by the registrant on July 30, 2010 (Registration No. 333-168409) for which the registrant paid filing fees in the aggregate amount of \$13,443.09.
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This registration statement shall become effective upon filing with the Commission in accordance with Rule 462(b) under the Securities Act of 1933, as amended.

EXPLANATORY NOTE AND INCORPORATION BY REFERENCE

This registration statement is being filed with respect to the registration of additional shares of common stock of Aspen Technology, Inc., a Delaware corporation, pursuant to Rule 462(b) under the Securities Act of 1933, as amended. The contents of the earlier registration statement on Form S-1 (File No. 333-168409), which was declared effective by the Commission on September 22, 2010, are incorporated in this registration statement by reference.

The required opinion and consents are listed on an Exhibit Index attached hereto and filed herewith.

EXHIBIT INDEX

| Exhibit No. | Description |
|----------------|---|
| 5.1 | Opinion of Cooley LLP |
| 23.1 | Consent of Cooley LLP (included in Exhibit 5.1) |
| 23.2 | Consent of KPMG LLP |
| 24.1* | Power of Attorney |

* Filed as Exhibit 24.1 to the registrant's registration statement on Form S-1 (File No. 333-168409) filed with the Commission on July 30, 2010.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Burlington, Commonwealth of Massachusetts, as of September 22, 2010.

ASPEN TECHNOLOGY, INC.

By: /s/ MARK E. FUSCO

Mark E. Fusco
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933 this registration statement has been signed by the following persons in the capacities indicated as of September 22, 2010.

| <u>Signature</u> | <u>Title</u> |
|--|---|
| /s/ MARK E. FUSCO _____ Mark E. Fusco | President and Chief Executive Officer and Director <i>(Principal Executive Officer)</i> |
| /s/ MARK P. SULLIVAN _____ Mark. P. Sullivan | Executive Vice President and Chief Financial Officer <i>(Principal Financial and Principal Accounting Officer)</i> |
| * | |
| _____ Donald P. Casey | Director |
| * | |
| _____ Gary E. Haroian | Director |
| * | |
| _____ Stephen M. Jennings | Director |
| * | |
| _____ Joan C. McArdle | Director |
| * | |
| _____ David M. McKenna | Director |

Signature

Title

*

Michael Pehl Director

*By: /s/ MARK P. SULLIVAN

Mark P. Sullivan
Attorney-in-Fact

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[EXPLANATORY NOTE AND INCORPORATION BY REFERENCE](#)

[EXHIBIT INDEX](#)



MARK L. JOHNSON
(617) 937-2362
mark.johnson@cooley.com

September 22, 2010

Aspen Technology, Inc. 200 Wheeler Road
Burlington, MA 01803

Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the filing by Aspen Technology, Inc., a Delaware corporation (the "**Company**"), of a Registration Statement on Form S-1 (the "**Registration Statement**") with the U.S. Securities and Exchange Commission covering an underwritten public offering of up to 3,450,000 shares of common stock, par value \$0.10, including 450,000 shares of common stock for which the underwriters have been granted an over-allotment option (the "**Shares**"). All of the Shares are to be sold by the selling stockholders identified in the Registration Statement and the related Prospectus.

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and related Prospectus, (b) the Company's Certificate of Incorporation, as amended, and By-laws, as currently in effect, and (c) the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. As to certain factual matters, we have relied upon a certificate of officers of the Company and have not sought to independently verify such matters. We have assumed the genuineness and authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies thereof and the due execution and delivery of all documents where due execution and delivery are a prerequisite to the effectiveness thereof. Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares have been validly issued and are fully paid and non-assessable.

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

Sincerely,

COOLEY LLP

By: /s/ MARK L. JOHNSON

Mark L. Johnson, Esq.

500 BOYLSTON STREET, BOSTON, MA 02116-3736 T: (617) 937-2300 F: (617) 937-2400 WWW.COOLEY.COM

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[EXHIBIT 5.1](#)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Aspen Technology Inc.:

We consent to the incorporation by reference in this Registration Statement on Form S-1 to be filed pursuant to Rule 462(b) of the Securities Act of 1933 of our report dated September 1, 2010, with respect to the consolidated balance sheets of Aspen Technology Inc. as of June 30, 2010 and 2009, and the related consolidated statements of operations, stockholders' equity (deficit) and comprehensive income (loss) and cash flows for each of the years in the three-year period ended June 30, 2010, appearing in the prospectus, which is part of this registration statement. We also consent to the reference to us under the heading "Experts" and "Selected Consolidated Financial Data" in the prospectus.

/s/ KPMG LLP

Boston, Massachusetts
September 22, 2010

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[Exhibit 23.1](#)