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

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**POST-EFFECTIVE AMENDMENT NO. 1**  
**TO**

**FORM S-3**

**REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933**

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**Ciena Corporation**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of incorporation or organization)

**23-2725311**

(I.R.S. Employer Identification No.)

**1201 Winterson Road**  
**Linthicum, Maryland 21090**  
**(410) 865-8500**

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

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**David M. Rothenstein**  
**Senior Vice President, General Counsel and Secretary**  
**Ciena Corporation**  
**1201 Winterson Road**  
**Linthicum, Maryland 21090**  
**(410) 865-8500**

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

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**Copies to:**

**Michael J. Silver**  
**William I. Intner**  
**Hogan & Hartson LLP**  
**111 S. Calvert Street, Suite 1600**  
**Baltimore, Maryland 21202**  
**(410) 659-2700**

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**Approximate date of commencement of proposed sale to the public: Not applicable.**

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 this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

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## DEREGISTRATION OF SECURITIES

This Post-Effective Amendment No. 1 relates to the Registration Statement on Form S-3 (File No. 333-132952) filed with the Securities and Exchange Commission on April 3, 2006 (the "Registration Statement"), by Ciena Corporation, a Delaware corporation (the "Registrant"). The Registration Statement registered the sale of Convertible Senior Notes due 2013 (the "Notes"), and an indeterminate number of shares of Common Stock of the Registrant, together with the rights to purchase Series A Junior Participating Preferred Stock of the Registrant attached thereto, issuable upon the conversion of the Notes (the "Shares").

The Registrant has terminated the use of the Registration Statement for all future offerings of the Notes. In accordance with the Registrant's undertakings in Part II of the Registration Statement as required by Item 512(a)(3) of Regulation S-K, the Registrant hereby removes from registration the remaining Notes under the Registration Statement and the related Shares by means of this Post-Effective Amendment No. 1 to the Registration Statement.

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**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, 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 Post-Effective Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Linthicum, State of Maryland, on April 16, 2009.

**CIENA CORPORATION**

By: /s/ David M. Rothenstein  
David M. Rothenstein  
Senior Vice President, General Counsel and Secretary