A123 SYSTEMS, INC. Form S-3 May 31, 2012 <u>Table of Contents</u>

As filed with the Securities and Exchange Commission on May 30, 2012

Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

UNDER THE SECURITIES ACT OF 1933

A123 SYSTEMS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization) 04-3583876 (I.R.S. Employer Identification Number)

200 West Street

Waltham, Massachusetts 02451

(617) 778-5700

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant s Principal Executive Offices)

David P. Vieau

Chief Executive Officer

A123 Systems, Inc.

200 West Street

Waltham, Massachusetts 02451

(617) 778-5700

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

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Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes effective as determined by the selling stockholders named in the prospectus contained herein.

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

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. x

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. o

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. o

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 checkmark 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 , and smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer x

Accelerated filer o

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

CALCULATION OF REGISTRATION FEE

Title of each class of Amount to be **Proposed Maximum Proposed Maximum** Amount of securities to be registered Registered Offering Price Per Unit (1) Aggregate Offering Price (1) **Registration Fee** 49,602,469 \$ Common Stock, \$0.001 par value per share 0.87 \$ 43,154,148 \$ 4.946 Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act, based on average of high and low price (1)per share of the common stock as reported on the NASDAQ Global Select Market on May 22, 2012.

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 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, Dated May 30, 2012

PROSPECTUS

49,602,469 Shares

A123 SYSTEMS, INC.

COMMON STOCK

This prospectus relates to the offer and resale by the selling stockholders identified in this prospectus of up to an aggregate of 49,602,469 shares of our common stock. We will not receive any of the proceeds from the sale of the common stock by the selling stockholders.

The selling stockholders identified in this prospectus may offer the shares from time to time through public or private transactions at prevailing market prices or at privately negotiated prices.

We have agreed to pay certain expenses in connection with the registration of the shares. The selling stockholders will pay all underwriting discounts and selling commissions, if any, in connection with the sale of the shares.

Our common stock is listed on The NASDAQ Global Select Market under the symbol AONE. On May 29, 2012, the last sale price of our common stock as reported on The NASDAQ Global Select Market was \$1.20.

Investing in our common stock involves risks. See Risk Factors beginning on page 4 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission nor any other regulatory body has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2012.

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You should rely only on the information contained in or incorporated by reference in this prospectus or in any related free writing prospectus filed by us with the SEC. We and the selling stockholders have not authorized anyone to provide you with different information. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Unless the context otherwise indicates, references in this prospectus to A123, we, our and us refer, collectively, to A123 Systems, Inc., a Delaware corporation, and its consolidated subsidiaries.

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus and the information incorporated by reference in this prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements are often identified by the use of words such as may, expect, believe, anticipate, intend, estimate, or continue, and similar expressions or variations. All statements other than statements of historical fact are statements that could be deemed forward-looking statements, including without limitation statements regarding industry trends, management s expectations, competitive strengths or market position, market expectations, business opportunities, projections of revenue, expenses, profits, management s confidence in our strategies and other matters that do not relate strictly to historical facts. Such forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed under the heading Risk Factors in any of our filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act. The forward-looking statements in this prospectus and the information incorporated by reference in this prospects represent our views as of the date such statements are made. While we may elect to update such forward-looking statements at some point in the future, we disclaim any obligation to do so, even if subsequent events cause our views to change. These forward-looking statements should not be relied upon as representing our views as of any date subsequent to the date such statements are made.

PROSPECTUS SUMMARY

This summary highlights selected information appearing elsewhere in this prospectus or in documents incorporated herein by reference. This summary is not complete and does not contain all of the information that you should consider before making your investment decision. You should carefully read the entire prospectus, including the information set forth in the section entitled Risk Factors and the information that is incorporated by reference into this prospectus. See the sections entitled Available Information and Incorporation of Certain Information by Reference for a further discussion on incorporation by reference.

The Company

We design, develop, manufacture and sell advanced, rechargeable lithium-ion batteries and energy storage systems. We believe that lithium-ion batteries will play an increasingly important role in facilitating a shift toward cleaner forms of energy. Using our innovative approach to materials science and battery engineering and our systems integration and manufacturing capabilities, we have developed a broad family of high-power lithium-ion batteries and battery systems. This family of products, combined with our strategic partner relationships in the transportation, electric grid services and commercial markets, positions us well to address these markets for next-generation energy storage solutions.

Our principal executive offices are located at 200 West Street, Waltham, Massachusetts 02451, and our telephone number is (617) 778-5700.

The Offering

Common stock offered by the selling stockholders	Up to 49,602,469 shares
Common stock outstanding	147,141,341 shares (as of May 21, 2012)
Terms of the offering	The selling stockholders will determine when and how they sell the common stock offered in this prospectus, as described in Plan of Distribution.
Use of proceeds	We will not receive any of the proceeds from the sale of the shares of common stock being offered under this prospectus. See Use of Proceeds.
NASDAQ symbol	Our common stock is listed on The NASDAQ Global Select Market under the symbol AONE.
Risk factors	You should read the Risk Factors section of this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.

On May 23, 2012, we entered into an amended and restated securities purchase agreement, or the Purchase Agreement, with the selling stockholders. Pursuant to the Purchase Agreement, we sold to the selling stockholders \$50.0 million aggregate principal amount of senior convertible notes, or the Notes, and warrants to purchase shares of our common stock, or the Warrants. In connection with the Purchase

Agreement, we also entered into a registration rights agreement, or the Registration Rights Agreement, with the selling stockholders. Pursuant to the Registration Rights Agreement, we agreed to file one or more registration statements, including the registration statement of which this prospectus is a part, as permissible and necessary to register under the Securities Act the sale of the shares of our common stock that may be issued to the selling stockholders upon conversion of the Notes, payment of principal of and interest on the Notes and exercise of the Warrants. For more information, see Private Placement of Notes and Warrants.

Pursuant to the Registration Rights Agreement, we are registering under the Securities Act 49,602,469 shares of our common stock issuable upon (i) conversion of the Notes, including conversion in connection with monthly principal payments on the Notes or (ii) payment of interest on the Notes.

RISK FACTORS

Investment in any securities offered pursuant to this prospectus involves risks. Before making an investment decision, you should carefully consider the specific risks described below and under the caption Risk Factors in any of our filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, which are incorporated herein by reference. Each of such risks could adversely affect our business, financial condition, results of operations and prospects, and could result in a complete loss of your investment. For more information, see Where You Can Find More Information.

Risks Resulting From Our Private Placement of Notes and Warrants

Substantial leverage and debt service obligations may adversely affect our cash flows.

In connection with the sale of the Notes to the selling stockholders, we incurred new indebtedness of \$50 million. As a result, as of March 31, 2012, after giving effect to the issuance of the Notes, we would have had an aggregate of approximately \$193.0 million of outstanding debt. The degree to which we are leveraged could, among other things:

• require us to dedicate a substantial portion of our future cash flows from operations and other capital resources to debt service, to the extent we are unable to make payments of principal or interest on the Notes in common stock, due to, among other things, failure to satisfy the equity conditions that must be met to enable us to do so;

• make it difficult for us to obtain necessary financing in the future for working capital, acquisitions or other purposes on favorable terms, if at all;

- make it more difficult for us to be acquired;
- make us more vulnerable to industry downturns and competitive pressures; and
- limit our flexibility in planning for, or reacting to, changes in our business.

Our ability to meet our debt service obligations will depend upon our future performance, which will be subject to financial, business and other factors affecting our operations, many of which are beyond our control.

We could be required to make substantial cash payments upon an event of default or change of control under the Notes.

The Notes provide for events of default including, among others, payment defaults, cross-defaults, breaches of any representation, warranty or covenant that is not cured within the proper time periods, failure to perform certain required activities in a timely manner, suspension from trading or failure of our common stock to be listed on an eligible market for certain periods and certain bankruptcy-type events involving us or any significant subsidiary. Upon an event of default, the selling stockholders may elect to require us to redeem all or any portion of the outstanding principal amount of such notes at a price equal to the greater of:

either 125% or 100%, depending on the type of event of default, of the principal amount being redeemed; and

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• the product of the principal amount being redeemed multiplied by a fraction, the numerator of which is the greatest closing sale price of our common stock on any trading day during the period starting on the date immediately preceding the event of default and ending on the day we pay the redemption amount for the Notes, and the denominator of which is the conversion price (as defined in the Notes) at the time the selling stockholder elects to have the Notes redeemed.

In addition, under the terms of the Notes, upon a change of control, the selling stockholders may elect to require us to redeem all or a portion of the Notes at a price equal to 100% of the greater of:

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- the sum of such principal amount being redeemed, plus all accrued but unpaid interest, and a make-whole amount; or
- the product of:
- such principal amount being redeemed, plus all accrued but unpaid interest, multiplied by

• the quotient determined by dividing (x) the greatest closing sale price of our common stock during the period beginning on the date immediately preceding the earlier of the consummation or public announcement of such change of control and ending on the date the holder elects to require us to redeem all or a portion of the Notes, by (y) the lowest conversion price of the Notes in effect during such period.

If either an event of default or change of control occurs, our available cash could be seriously depleted and our ability to fund operations could be materially harmed. See Private Placement of Notes and Warrants for a detailed description of the Notes.

We are responsible for having the resale of the common stock underlying the Notes and the Warrants registered with the SEC and for obtaining shareholder approval of the issuance of the common stock underlying the Notes and Warrants and an increase in the authorized number of shares of our common stock within defined time periods. We will be subject to an obligation to redeem up to \$30 million aggregate principal amount of Notes if the common stock is not registered with the SEC and shareholder approval is not obtained within those defined time periods. In addition, we will incur liquidated damages if the common stock is not registered with the SEC within the defined time period.

Pursuant to the Registration Rights Agreement, we are obligated to use our reasonable best efforts to:

• cause this registration statement covering the resale of 49,602,469 shares of common stock issuable upon conversion of the Notes, including conversion in connection with monthly principal payments on the Notes, or upon payment of interest on the Notes, to be declared effective by July 23, 2012 (or by August 7, 2012 if the SEC reviews such registration statement) following the closing of the private placement;

• cause a subsequent registration statement covering the resale of an additional 250,397,531 shares of common stock issuable upon conversion of the Notes, including conversion in connection with monthly principal payments on the Notes, upon payment of interest on the Notes or upon exercise of the Warrants to be declared effective by August 20, 2012; and

• keep the registration statements effective until the earlier of (x) the date all of the securities covered by the registration statement may be sold without restriction or limitation under Rule 144 promulgated under the Securities Act and without the requirement to comply with Rule 144(c)(1) and (y) the date all of the securities covered by the registration statement have been sold.

If we fail to comply with these or certain other provisions, then we will be required to pay liquidated damages. Any such payments could materially affect our ability to fund operations.

In addition, we deposited \$30.0 million of the expected proceeds from the Notes into a bank account subject to an account control agreement that will be released upon:

• our obtaining, on or prior to June 30, 2012, shareholder approval, or the Shareholder Approval, of:

• the issuance of shares of our common stock in connection with the conversion of the Notes, the payment of principal of and interest on the Notes, and exercise of the Warrants; and

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• an increase in the authorized number of shares of our common stock; and

• our obtaining, on or prior to the deadlines described below, the effectiveness, or the Registration Statement Effectiveness, of one or more registration statements covering the shares of common stock underlying the Notes and the Warrants, including the registration statement of which this prospectus is a part.

If:

- the Shareholder Approval is not obtained on or prior to June 30, 2012; or
- the Registration Statement Effectiveness has not been achieved by:
- August 15, 2012, with respect to the registration statement of which this prospectus is a part; or

• August 20, 2012, with respect to a subsequent registration statement covering the remainder of the common stock underlying the Notes and the common stock underlying the Warrants;

then the selling stockholders will have the right to require us to redeem all or any portion of \$30.0 million aggregate principal amount of Notes at a price equal to 100% of the principal amount being redeemed, plus accrued and unpaid interest, from the proceeds in the control account.

The \$30.0 million of proceeds subject to the account control agreement will not be available to us prior to our obtaining the Shareholder Approval and the Registration Statement Effectiveness.

We have also entered into a security agreement with the selling stockholders representative pursuant to which the proceeds in the control account were pledged for the benefit of the selling stockholders until the proceeds in the control account are released to us as described above.

The Notes contain various covenants and restrictions which may limit our ability to operate our business.

The Notes contain certain covenants and restrictions, including, among others, that, for so long as the Notes are outstanding, we will not, and we will not permit any of our subsidiaries to:

- incur any indebtedness (other than permitted indebtedness under the Notes);
- permit liens on our properties (other than permitted liens under the Notes);
- redeem or repurchase equity interests;
- repay certain indebtedness in cash if an event of default has occurred or where to occur;
- declare or pay cash dividends;
- transfer certain assets; or
- make or agree to make capital expenditures above \$35,000,000 for the fiscal year ended December 31, 2012.

These restrictions could limit our ability to plan for or react to market conditions or meet extraordinary capital needs or otherwise restrict corporate activities, any of which could have a material adverse impact on our business. See Private Placement of Notes and Warrants for a more detailed description of the Notes.

USE OF PROCEEDS

We will not receive any proceeds from the sale of shares by the selling stockholders.

PRIVATE PLACEMENT OF NOTES AND WARRANTS

Pursuant to the Purchase Agreement, on May 24, 2012, we sold to the selling stockholders \$50.0 million aggregate principal amount of the Notes (at face amount) and Warrants to purchase 12,711,864 shares of our common stock, subject to certain adjustments, for an aggregate purchase price of \$50.0 million. We paid fees and expenses of approximately \$2.9 million, including \$135,000 to reimburse the legal fees and expenses of the selling stockholders incurred in connection with the transaction. Accordingly, the net proceeds to us were \$47.1 million.

Description of the Notes

Subject to the control account and security agreement described below, the Notes will be *pari passu* in right of payment with all of our existing and future unsecured senior indebtedness and will be senior in right of payment to any of our future subordinated indebtedness.

Principal, Maturity and Interest

We issued \$50.0 million aggregate principal amount of the Notes. The Notes bear interest at a rate of 6.00% per year, subject to certain adjustments, and mature on July 15, 2013.

Conversion

The Notes are convertible, at the selling stockholders option, into shares of our common stock, initially at a fixed conversion price of \$1.18 per share, subject to certain adjustments.

The selling stockholders will have the right at any time, and from time to time, after August 15, 2012, to elect to convert up to \$30.0 million aggregate principal amount of Notes at a price equal to 85% of the closing price of our common stock on the trading day immediately preceding the conversion date; provided, however, that the selling stockholders may not convert more than \$3.5 million aggregate principal amount of the Notes on any given trading date.

Until the earlier to occur of the date of the shareholder approvals described below and June 30, 2012, the selling stockholders shall not have the right to convert the Notes into more than 49,602,469 shares of common stock.

The Notes may not be converted if, after giving effect to the conversion, the selling stockholders together with their affiliates would beneficially own in excess of 4.99% of the outstanding shares of our common stock, or the Maximum Percentage. The Maximum Percentage may be raised

to any other percentage not in excess of 9.99% at the option of the selling stockholders, upon at least 61-days prior notice to us, or lowered to any other percentage, at the option of the selling stockholders at any time.

In no event will we issue more than 19.9% of the number of shares of our outstanding common stock on the closing date in respect of the Notes as a result of conversions, amortization or interest payments, or redemptions unless prior shareholder approval has been obtained, as described below, except as a result of stock splits or similar events.

Amortization

We are required to repay the Notes in twenty-seven semi-monthly installments, commencing on June 15, 2012 and thereafter on the 1st and 15th of each month, each such date, an Installment Date. The amortization payment on each Installment Date is 1/29th of the principal amount of the Notes, subject to certain adjustments, provided that the amortization payment on the June 15, 2012, July 1, 2012 and July 15, 2012 Installment Dates will be 1 2/3 times the amortization payment on the other Installment Dates.

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Settlement of Interest, Amortization or Redemption Payments in Common Stock

We have the right to make interest or amortization payments and redemption payments in shares of our common stock, subject to the satisfaction of certain conditions, or elect to pay in cash. Among these conditions:

• there must be an effective registration statement covering such shares of common stock issuable under the terms of the Notes or such shares of common stock must be eligible for sale pursuant to Rule 144 under the Securities Act without the need for registration,

- the weighted average price of our common stock on each of the prior 15 trading days has not been below \$0.80; and
- the daily dollar trading volume of our common stock for each of the prior 15 trading days was at least \$750,000.

If we are not permitted to deliver shares of common stock with respect to an Installment Date due to a failure to satisfy any of the conditions, we must pay the applicable portion of the principal and interest amounts in cash, unless the conditions are waived by the selling stockholder. If the applicable conditions are satisfied, we currently intend to repay the Notes through the issuance of shares of our common stock. However, this intention may change depending on our finances at the time of the applicable Installment Date and our stock price on the applicable Installment Date.

If we make a payment in shares of common stock, the principal amount of the Notes being paid will be converted into shares of our common stock at a price per share equal to the lesser of the applicable conversion price and 82% of the Market Price of our common stock on the applicable interest date or amortization installment date. Market Price means the arithmetic average of the volume weighted average price of our common stock on the trading days immediately preceding the applicable date, but in no event greater than the volume weighted average price of our common stock on the trading date immediately preceding the applicable date.

Control Account; Redemption of the Notes at the Option of the Selling Stockholders upon Certain Events

We deposited \$30.0 million of the expected proceeds from the Notes into a bank account subject to an account control agreement that will be released upon:

Our obtaining, on or prior to June 30, 2012, the Shareholder Approval, of:

• the issuance of shares of our common stock in connection with the conversion of the Notes, the payment of principal of and interest on the Notes, and exercise of the Warrants; and

• an increase in the authorized number of shares of our common stock; and

• our obtaining, on or prior to the deadlines described below, the effectiveness, or the Registration Statement Effectiveness, of one or more registration statements covering the shares of common stock underlying the Notes and the Warrants, including the registration statement of which this prospectus is a part.

If:

- the Shareholder Approval is not obtained on or prior to June 30, 2012; or
- the Registration Statement Effectiveness has not been achieved by:
- August 15, 2012, with respect to the registration statement of which this prospectus is a part; or

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• August 20, 2012, with respect to a subsequent registration statement covering the remainder of the common stock underlying the Notes and the common stock underlying the Warrants;

then the selling stockholders will have the right to require us to redeem all or any portion of \$30.0 million aggregate principal amount of Notes at a price equal to 100% of the principal amount being redeemed, plus accrued and unpaid interest, from the proceeds in the control account.

The \$30.0 million of proceeds subject to the account control agreement will not be available to us prior to our obtaining the Shareholder Approval and the Registration Statement Effectiveness.

We have also entered into a security agreement with the selling stockholders representative pursuant to which the proceeds in the control account were pledged for the benefit of the selling stockholders until the proceeds in the control account are released to us as described above.

Redemption at the Option of the Selling Stockholders upon Change in Control

In the event of a change of control (as defined in the Notes), the selling stockholders will have the option to cause us to redeem all or a portion of the Notes at a price equal to 100% of the greater of:

- the sum of such principal amount being redeemed, plus all accrued but unpaid interest, and a make-whole amount; or
- the product of:
- such principal amount being redeemed, plus all accrued but unpaid interest, multiplied by

• the quotient determined by dividing (x) the greatest closing sale price of our common stock during the period beginning on the date immediately preceding the earlier of the consummation or public announcement of such change of control and ending on the date the holder elects to require us to redeem all or a portion of the Notes, by (y) the lowest conversion price of the Notes in effect during such period.

Certain Covenants and Events of Default

The Notes contain certain covenants and restrictions, including, among others, that, for so long as the Notes are outstanding, we will not, and we will not permit any of our subsidiaries to:

- incur any indebtedness (other than permitted indebtedness under the Notes);
- permit liens on our properties (other than permitted liens under the Notes);
- redeem or repurchase equity interests;
- repay certain indebtedness in cash if an event of default has occurred or where to occur;
- declare or pay cash dividends;
- transfer certain assets; or
- make or agree to make capital expenditures above \$35,000,000 for the fiscal year ended December 31, 2012.

Events of default under the Notes include, among other events, payment defaults, cross-defaults, breaches of any representation, warranty or covenant that is not cured within the proper time periods, failure to perform certain required activities in a timely manner, suspension from trading or failure of our common stock to be listed on

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an eligible market for certain periods and certain bankruptcy-type events involving us or any significant subsidiary. Upon an event of default, the selling stockholders may elect to require us to redeem all or any portion of the outstanding principal amount of such notes at a price equal to the greater of:

either 125% or 100%, depending on the type of event of default, of the principal amount being redeemed; and

• the product of the principal amount being redeemed multiplied by a fraction, the numerator of which is the greatest closing sale price of our common stock on any trading day during the period starting on the date immediately preceding the event of default and ending on the day we pay the redemption amount for the Notes, and the denominator of which is the conversion price (as defined in the Notes) at the time the selling stockholder elects to have the Notes redeemed.

Warrants

The Warrants have a strike price equal to \$1.29 per share. In the event of a fundamental change, as defined in the Warrants, the selling stockholders are entitled to a fair value settlement for the lost option value determined on a Black-Scholes-based calculation. The Warrants may not be exercised for six months from the date of issuance. The Warrants are subject to customary anti-dilution adjustments. However, until the Shareholder Approval is obtained, in no event will such adjustments result in a strike price less than \$1.11 per share.

The Warrants may not be exercised if, after giving effect to the exercise, the selling stockholders together with their affiliates would beneficially own in excess of the Maximum Percentage. The Maximum Percentage may be raised to any other percentage not in excess of 9.99% at the option of the holder of the Warrants, upon at least 61-days prior notice to us, or lowered to any other percentage, at the option of the selling stockholders, at any time.

Registration Rights Agreement

We entered into a Registration Rights Agreement with the selling stockholders pursuant to which we agreed to register the shares of common stock underlying the Notes and Warrants. We agreed to file the registration statement of which this prospectus is a part within 20 days after the closing of the private placement of the Notes and Warrants and to file a subsequent registration statement on the earlier of (i) three calendar days after the Shareholder Approval has been obtained and (ii) July 3, 2012 to register the remainder of the common stock underlying the Notes and the shares of common stock underlying the Warrants.

If we fail to register the appropriate number of shares of common stock or fail to file the required registration statements on a timely basis, or the initial registration statement is not declared effective by July 23, 2012 (or by August 7, 2012 if reviewed by the Securities and Exchange Commission) after the date of the issuance of the Notes or maintained, or if the subsequent registration statement is not declared effective by August 20, 2012 or maintained, or if all of such registered shares of common stock cannot be sold on any date after such registration statements are declared effective, we will be required to make a cash payment to the selling stockholders equal to 2% of the then-outstanding principal

amount of the Notes, and accrued but unpaid interest thereon, on the date of such failure and on every thirtieth day after such failure until such failure is cured.

SELLING STOCKHOLDERS

The shares of common stock being offered by the selling stockholders are those issuable to the selling stockholders upon conversion of the Notes and payment of principal of and interest on the Notes up to an aggregate of 49,602,469 shares of Common Stock. We are registering the shares of common stock in order to permit the selling stockholders to offer the shares for resale from time to time. Except for the ownership of the Notes and the Warrants, the selling stockholders have not had any material relationship with us within the past three years.

The table below lists the selling stockholders and other information regarding the beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder) of the shares of common stock held by the selling stockholders. The second column lists the number of shares of common stock beneficially owned by each selling stockholder, based on its ownership of the Notes and the Warrants, as of May 29, 2012, assuming conversion of the Notes held by such selling stockholder on that date without regard to any limitations on conversion set forth therein, including, without limitation, the Maximum Percentage. The third column lists the shares of common stock being offered by this prospectus by each selling stockholder and (i) does not take into account any limitations on conversion of the Notes set forth therein and (ii) assumes that we will make payments of principal and interest in shares of common stock.

In accordance with the terms of the Registration Rights Agreement with the holders of the Notes and the Warrants, this prospectus generally covers the resale of 49,602,469 shares of common stock (i) issuable upon conversion of the Notes, including conversion in connection with monthly principal payments on the Notes and (ii) upon payment of interest on the Notes. Because the price at which the Notes will be converted in connection with principal and interest payments will vary based on the market price of our common stock, and the conversion price of the Notes may be adjusted, the number of shares that will actually be issued may be more or less than the number of shares being offered by this prospectus. The fourth column assumes the sale of all of the shares offered by each selling stockholder pursuant to this prospectus.

Each selling stockholder may sell all, some or none of its shares in this offering. See Plan of Distribution.

Name of Selling Stockholder	Number of Shares of Common Stock Owned Prior to Offering	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus	Number of Shares of Common Stock Owned After Offering
Hudson Bay Master Fund Ltd.(1)	27,542,373	32,241,605	
J.P. Morgan Omni SPC, Ltd.(2)	8,474,576	9,920,494	
Tenor Special Situation Fund, L.P.(3)	1,694,915	1,984,099	
Parsoon Special Situation Ltd.(3)	2,118,644	2,480,123	
Tenor Opportunity Master Fund, Ltd.(3)	1,906,780	2,232,111	
Aria Opportunity Fund, Ltd.(3)	635,593	744,037	
Total	42,372,881	49,602,469	

⁽¹⁾ Hudson Bay Capital Management LP, the investment manager of Hudson Bay Master Fund Ltd., has voting and investment power over these securities. Sander Gerber is the managing member of Hudson Bay Capital GP LLC, which is the general partner of Hudson Bay Capital Management LP. Sander Gerber disclaims beneficial ownership over these securities.

(2) Hudson Bay Capital Management, L.P., the investment manager of J.P. Morgan Omni SPC, Ltd., has voting and investment power over these securities. Sander Gerber is the managing member of Hudson Bay Capital GP LLC, which is the general partner of Hudson Bay Capital Management, L.P. Sander Gerber disclaims beneficial ownership over these securities.

(3) Robin R. Shah is a Partner of Tenor Capital Management Company, L.P., which is the investment manager of Tenor Special Situation Fund, L.P., or TSF, Parsoon Special Situation Ltd., or PSS, Tenor Opportunity Master Fund, Ltd., or TMF, and Aria Opportunity Fund, Ltd., or AMF. Robin R. Shah has voting and investment power over the shares held by TSF, PSS, TMF and AMF.

PLAN OF DISTRIBUTION

We are registering the shares of common stock issuable upon conversion of the Notes and payment of principal of and interest on the Notes to permit the resale of these shares of common stock by the selling stockholders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of common stock. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

The selling stockholders may sell all or a portion of the shares of common stock held by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of common stock are sold through underwriters or broker-dealers, the selling stockholders will be responsible for underwriting discounts or commissions or agent s commissions. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions, pursuant to one or more of the following methods:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing or settlement of options, whether such options are listed on an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

• block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;

- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;

- privately negotiated transactions;
- short sales;
- broker-dealers may agree with a selling securityholder to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares of common stock under Rule 144 promulgated under the Securities Act of 1933, as amended, if available, rather than under this prospectus. In addition, the selling stockholders may transfer the shares of common stock by other means not described in this prospectus. If the selling stockholders effect such transactions by selling shares of common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares of common stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved). In connection with sales of the shares of common stock or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the shares of common stock in the course of hedging in positions they assume. The selling stockholders may also sell

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shares of common stock short and deliver shares of common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholders may also loan or pledge shares of common stock to broker-dealers that in turn may sell such shares.

The selling stockholders may pledge or grant a security interest in some or all of the Notes, Warrants or shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending, if necessary, the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer and donate the shares of common stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

To the extent required by the Securities Act and the rules and regulations thereunder, the selling stockholders and any broker-dealer participating in the distribution of the shares of common stock may be deemed to be underwriters within the meaning of the Securities Act, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the shares of common stock is made, a prospectus supplement, if required, will be distributed, which will set forth the aggregate amount of shares of common stock being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholders and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers.

Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that the selling stockholders will sell any or all of the shares of common stock registered pursuant to the registration statement of which this prospectus forms a part.

The selling stockholders and any other person participating in such distribution will be subject to applicable provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of common stock by the selling stockholders and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

We will pay all expenses of the registration of the shares of common stock pursuant to the registration rights agreement, estimated to be \$70,000 in total, including, without limitation, Securities and Exchange Commission filing fees and expenses of compliance with state securities or blue sky laws; provided, however, the selling stockholders will pay all underwriting discounts and selling commissions, if any. We will indemnify the selling stockholders against liabilities, including some liabilities under the Securities Act in accordance with the registration rights agreements, or the selling stockholders will be entitled to contribution. We may be indemnified by the selling stockholders against civil liabilities, including liabilities under the Securities Act that may arise from any written information furnished to us by the selling stockholders specifically for use in this prospectus, in accordance with the registration rights agreements, or we may be entitled to contribution.

Once sold under the registration statement, of which this prospectus is a part, the shares of common stock will be freely tradeable in the hands of persons other than our affiliates.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus has been passed upon by Latham & Watkins LLP, Boston, Massachusetts.

EXPERTS

The financial statements of A123 Systems, Inc. as of December 31, 2011 and 2010, and for each of the three years in the period ended December 31, 2011, incorporated by reference in this prospectus, and the effectiveness of A123 Systems, Inc. s internal control over financial reporting as of December 31, 2011 have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports (which reports express (i) an unqualified opinion on the financial statements and include explanatory paragraphs referring to substantial doubt about A123 s ability to continue as a going concern, and the adoption of Financial Accounting Standards Board Accounting Standards Update 2011-5, *Comprehensive Income (Topic 220)* as amended, and (ii) an adverse opinion on the effectiveness of internal control over financial reporting due to a material weakness), which are incorporated by reference herein. Such financial statements have been incorporated in reliance upon the reports of such firm given their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934 and file annual, quarterly and special reports, proxy statements and other documents with the SEC. You may read and copy any reports, proxy statements and other documents we file at the SEC s public reference room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. You may also obtain copies of these reports, proxy statements and other documents at the SEC s website, the address of which is *http://www.sec.gov*.

We have filed a registration statement on Form S-3 and related exhibits with the SEC under the Securities Act. The registration statement contains additional information about us and the shares of common stock covered by this prospectus. You may inspect the registration statement and exhibits without charge and obtain copies from the SEC at the location above or from the SEC s web site.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate into this prospectus information that we file with the SEC in other documents. This means that we can disclose important information to you by referring to other documents that contain that information. The information incorporated by reference is considered to be part of this prospectus. We incorporate by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 after the date of this prospectus and prior to the sale of all the shares covered by this prospectus.

• Annual Report on Form 10-K for the fiscal year ended December 31, 2011, filed with the SEC on March 12, 2012 as amended on Form 10-K/A for the fiscal year ended December 31, 2011, filed on May 10, 2012;

• Definitive Proxy Statement on Schedule 14A filed with the SEC on April 13, 2012;

• Quarterly Report on Form 10-Q filed with the SEC on May 15, 2012;

• Current Reports on Form 8-K (in each case, other than information and exhibits furnished to and not filed with the SEC in accordance with SEC Rules and Regulations) filed with the SEC on January 20, 2012, January 24, 2012, February 14, 2012, March 1, 2012, March 8, 2012, April 11, 2012, May 8, 2012, May 15, 2012, May 24, 2012 and May 30, 2012; and

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• The description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on September 18, 2009, including any amendments or reports filed for the purpose of updating such description.

A statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superceded for purposes of this prospectus to the extent that a statement contained in this prospectus, any prospectus supplement or in any other subsequently filed document which is also incorporated in this prospectus modifies or replaces such statement. Any statements so modified or superceded shall not be deemed, except as so modified or superceded, to constitute a part of this prospectus.

We will provide to you, upon request and without cost to you, a copy of any of the documents incorporated by reference into this prospectus. You may make such request in writing or by telephone to the following address and/or telephone number: A123 Systems, Inc., 200 West Street, Waltham, Massachusetts 02451, telephone: (617) 778-5700.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses to be incurred in connection with the sale and distribution of the securities being registered hereby, all of which will be borne by A123 Systems, Inc. (except any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the selling stockholders in disposing of the shares). All amounts shown are estimates except the SEC registration fee.

Item	Amount	
SEC registration fee	\$	4,946
Legal fees and expenses	\$	50,000
Accounting fees and expenses	\$	5,000
Transfer Agent and Registrar fees	\$	5,000
Miscellaneous fees and expenses	\$	5,054
Total	\$	70,000

Item 15. Indemnification of Directors and Officers.

Section 102 of the General Corporation Law of the State of Delaware (the DGCL) permits a corporation to eliminate the personal liability of its directors or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our certificate of incorporation provides that no director shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the DGCL prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the DGCL provides, generally, that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she was, is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our certificate of incorporation provides that we will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding whether civil, criminal, administrative or investigative (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an Indemnitee), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a

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manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful.

Our certificate of incorporation also provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee or, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If we don t assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

We maintain a general liability insurance policy which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Certain of our non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities in their capacity as members of our board of directors.

The indemnification provisions contained in our certificate of incorporation and by-laws are not exclusive of any other rights to which a person may be entitled by law, agreement, vote of stockholders or disinterested directors or otherwise. In addition, we maintain insurance on behalf of our directors and executive officers insuring them against any liability asserted against them in their capacities as directors or officers or arising out of such status.

Article VI of our By-laws further provides that the indemnification provided therein is not exclusive, and provides that to the extent the DGCL is amended or supplemented, Article V shall be amended automatically and construed so as to permit indemnification and advancement of expenses to the fullest extent permitted by such law.

Item 16. Exhibits

See the Exhibit Index beginning on page E-1, which follows the signature pages hereof and is incorporated herein by reference.

Item 17. Undertakings.

Item 512(a) of Regulation S-K. 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, as amended (the Securities Act);

(ii) To reflect in the prospectus any facts or events arising after the effective date of this 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 this Registration Statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the

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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 20 percent 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 this Registration Statement or any material change to such information in this Registration Statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), that are incorporated by reference in this Registration Statement.

(2) That, for the purposes of determining any liability under the Securities Act, each 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 the 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 purposes of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof; *provided*, *however*, that no statement made in a 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 effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or prospectus that was part of the registration statement or p

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

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(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

Item 512(b) of *Regulation S-K*. The registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant s annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan s annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this 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.

Item 512(h) of Regulation S-K. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, 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 Act 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 by such director, officer or controlling person in connection with the securities being registered, 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 Act and will be governed by the final adjudication of such issue.

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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 registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Waltham, Massachusetts, on this 30th day of May, 2012.

A123 SYSTEMS, INC.

By:

/s/ David P. Vieau Name: Title:

David P. Vieau Chief Executive Officer

SIGNATURES AND POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints David Prystash and Eric Pyenson his true and lawful attorneys-in-fact and agents, each acting alone, with full powers of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any or all amendments to this registration statement and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, and hereby ratifies and confirms all his said attorneys-in-fact and agents, each acting alone, or his substitute or substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

/s/ David P. Vieau David P. Vieau	Chief Executive Officer and Director (principal executive officer)	May 30, 2012
/s/ David Prystash David Prystash	Chief Financial Officer (principal financial officer)	May 30, 2012
/s/ Richard E. Johnson Richard E. Johnson	Chief Accounting Officer (principal accounting officer)	May 30, 2012
/s/ Gururaj Deshpande Gururaj Deshpande	Director	May 30, 2012
/s/ Arthur L. Goldstein Arthur L. Goldstein	Director	May 30, 2012

/s/ Gary E. Haroian Gary E. Haroian	Director	May 30, 2012
/s/ Paul E. Jacobs Paul E. Jacobs	Director	May 30, 2012
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/s/ Jeffrey P. McCarthy Jeffrey P. McCarthy	Director	May 30, 2012
/s/ Gilbert Neal Riley, Jr. Gilbert Neal Riley, Jr.	Director	May 30, 2012
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EXHIBIT INDEX

Exhibit Number	Description
3.1	Restated Certificate of Incorporation (1)
3.2	Second Amended and Restated By-Laws (2)
4.1	Specimen Stock Certificate evidencing the shares of common stock (1)
4.2	Registration Rights Agreement by and between A123 Systems, Inc., Hudson Bay Master Fund Ltd., J.P.Morgan Omni
	SPC, Ltd., Tenor Special Situations Fund, L.P., Parsoon Special Situation Ltd., Tenor Opportunity Master Fund, Ltd., and Aria
	Opportunity Fund, Ltd (3)
5.1	Opinion of Latham & Watkins LLP
23.1	Consent of Deloitte & Touche LLP
23.3	Consent of Latham & Watkins LLP (included in Exhibit 5.1 filed herewith)
24.1	Power of Attorney (See page II-5 of this Registration Statement)

(1) Incorporated herein by reference to our Annual Report on Form 10-K for the year ended December 31, 2010 filed with the Securities and Exchange Commission on March 11, 2011.

(2) Incorporated by reference to our Registration Statement on Form S-1, as amended (File No. 333-152871), initially filed with the Securities and Exchange Commission on August 8, 2008.

(3) Incorporated herein by reference to our Current Report on Form 8-K filed with the Securities and Exchange Commission on May 24, 2012.

E-1