

PROSPECTUS

13,776,392 SHARES
ASPEN TECHNOLOGY, INC.
COMMON STOCK

This prospectus relates to shares of common stock that may be offered and sold at various times by the selling stockholders identified on page 11 of this prospectus. The offering is not being underwritten. These shares include shares that are issuable from time to time upon conversion of shares of our Series B-I and B-II convertible preferred stock and upon the exercise of warrants by the selling stockholders. We will not receive any proceeds from the sale of the shares.

The selling stockholders, or their pledgees, donees, transferees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices.

Concurrently with this offering, we are registering for resale 1,641,672 shares of our common stock held by Accenture LLP. These shares will be offered pursuant to a separate prospectus and may be offered from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. We will not receive any of the proceeds of the sale of these shares.

Our common stock is traded on the Nasdaq National Market under the symbol "AZPN."

INVESTING IN OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. SEE "RISK FACTORS" BEGINNING ON PAGE 3.

THE SECURITIES AND EXCHANGE COMMISSION AND STATE SECURITIES REGULATORS HAVE NOT APPROVED OR DISAPPROVED 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 July 8, 2002.

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We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus. The selling stockholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted.

PROSPECTUS SUMMARY

This summary highlights important features of this offering and the information included or incorporated by reference in this prospectus. This summary does not contain all of the information that you should consider before investing in our common stock. You should read the entire prospectus carefully, especially the risks of investing in our common stock discussed under "Risk Factors."

ASPEN TECHNOLOGY

OUR BUSINESS:

We are a global provider of intelligent decision-support and e-business solutions to the process industries. Our decision-support software and service solutions enable customers to automate, integrate and optimize complex engineering, manufacturing and supply chain functions. Customers use our e-business solutions to automate and synchronize collaborations with suppliers, customers and other trading partners over the Internet. Customers use our solutions to optimize manufacturing performance at the individual plant level, across multiple plants and throughout the extended supply chain. These solutions enable customers to increase competitiveness and profitability by improving manufacturing efficiency, responsiveness and product quality.

OUR ADDRESS:

Our principal executive offices are located at Ten Canal Park, Cambridge, Massachusetts 02141. Our telephone number is (617) 949-1000. Our website is located at www.aspentech.com. Information contained in our website is not a part of this prospectus.

THE OFFERING

COMMON STOCK OFFERED:

All of the shares offered by this prospectus are being sold by the selling stockholders. The selling stockholders consist of:

- entities that purchased an aggregate of 40,000 shares of our Series B-I convertible preferred stock and 20,000 shares of our Series B-II convertible preferred stock, which shares are initially convertible into an aggregate of 3,135,480 shares of common stock, and related warrants, which are initially exercisable to acquire an aggregate of 791,044 shares of common stock, and
- entities and individuals that purchased an aggregate of 4,166,665 shares of common stock and related warrants, which are initially exercisable to acquire 3,208,333 shares of common stock.

We refer to our Series B-I convertible preferred stock and Series B-II convertible preferred stock collectively as Series B preferred stock.

A total of 6,401,394 of the shares offered hereby have been registered on behalf of holders of Series B preferred stock and related warrants. We may issue up to 1,493,244 of these shares to pay dividends on the Series B preferred stock.

USE OF PROCEEDS:

We will not receive any proceeds from the sale of shares in this offering.

"ASPENTECH" and "PETROVANTAGE" are our trademarks. This prospectus also contains trademarks, service marks and trade names of other companies.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider the risks and uncertainties described below carefully before purchasing our common stock. The risks and uncertainties described below are not the only ones facing our company. Additional risks and uncertainties may also impair our business operations. If any of the following risks actually occur, our business, financial condition or results of operations would likely suffer. In that case, the trading price of our common stock could fall, and you may lose all or part of the money you paid to buy our common stock.

OUR LENGTHY SALES CYCLE MAKES IT DIFFICULT TO PREDICT QUARTERLY REVENUE LEVELS AND OPERATING RESULTS.

Because license fees for our software products are substantial and the decision to purchase our products typically involves members of our customers' senior management, the sales process for our solutions is lengthy and can exceed one year. Accordingly, the timing of our software revenues is difficult to predict, and the delay of an order could cause our quarterly revenues to fall substantially below expectations. Moreover, to the extent that we succeed in shifting customer purchases away from individual software solutions and toward more costly integrated suites of software and services, our sales cycle may lengthen, which could increase the likelihood of delays and cause the effect of a delay to become more pronounced. We have limited experience in forecasting the timing of sales of our integrated suites of software and services. Delays in sales could cause significant shortfalls in our revenues and operating results for any particular period.

FLUCTUATIONS IN OUR QUARTERLY REVENUES, OPERATING RESULTS AND CASH FLOW MAY CAUSE THE MARKET PRICE OF OUR COMMON STOCK TO FALL.

Our revenues, operating results and cash flow have fluctuated in the past and may fluctuate significantly in the future as a result of a variety of factors, many of which are outside of our control, including:

- our customers' purchasing patterns;
- the length of our sales cycle;
- changes in the mix of our license revenues and service revenues;
- the timing of introductions of new solutions and enhancements by us and our competitors;
- seasonal weakness in the first quarter of each fiscal year, primarily caused by a slowdown in business in some of our international markets;
- the timing of our investments in new product development;
- changes in our operating expenses; and
- fluctuating economic conditions, particularly as they affect companies in the chemicals, petrochemicals and petroleum industries.

We ship software products within a short period after receipt of an order and typically do not have a material backlog of unfilled orders for software products. Consequently, revenues from software licenses in any quarter are substantially dependent on orders booked and shipped in that quarter. Historically, a majority of each quarter's revenues from software licenses has come from license agreements that have been entered into in the final weeks of the quarter. Therefore, even a short delay in the consummation of an agreement may cause our revenues to fall below public expectations for that quarter.

Since our expense levels are based in part on anticipated revenues, we may be unable to adjust spending quickly enough to compensate for any revenue shortfall and any revenue shortfall would likely have a disproportionately adverse effect on our operating results. We expect that these factors will continue to affect our operating results for the foreseeable future. Because of the foregoing factors, we believe that

period-to-period comparisons of our operating results are not necessarily meaningful and should not be relied upon as indications of future performance.

If, due to one or more of the foregoing factors or an unanticipated cause, our operating results fail to meet the expectations of public market analysts and investors in a future quarter, the market price of our common stock would likely decline.

BECAUSE WE DERIVE A MAJORITY OF OUR TOTAL REVENUES FROM CUSTOMERS IN THE CYCLICAL CHEMICALS, PETROCHEMICALS AND PETROLEUM INDUSTRIES, OUR OPERATING RESULTS MAY SUFFER IF THESE INDUSTRIES EXPERIENCE AN ECONOMIC DOWNTURN.

We derive a majority of our total revenues from companies in the chemicals, petrochemicals and petroleum industries. Accordingly, our future success depends upon the continued demand for manufacturing optimization software and services by companies in these process manufacturing industries. The chemicals, petrochemicals and petroleum industries are highly cyclical. In the past, worldwide economic downturns and pricing pressures experienced by chemical, petrochemical and petroleum companies have led to consolidations and reorganizations. These downturns, pricing pressures and restructurings have caused delays and reductions in capital and operating expenditures by many of these companies. These delays and reductions have reduced demand for products and services like ours. A recurrence of these industry patterns, as well as general domestic and foreign economic conditions and other factors that reduce spending by companies in these industries, could harm our operating results in the future.

IF WE DO NOT COMPETE SUCCESSFULLY, WE MAY LOSE MARKET SHARE.

Our markets are highly competitive. Our asset optimization software competes with products of businesses such as Simulation Sciences, a division of Invensys. Our value chain planning software competes with products of companies such as i2 Technologies, Manugistics and SAP. Our value chain execution competes with products of companies such as Honeywell's Hi-Spec division, Invensys and SAP. We also face competition in all three areas from large companies in the process industries that have developed their own proprietary software solutions.

Some of our current competitors have significantly greater financial, marketing and other resources than we have. In addition, many of our current competitors have established, and may in the future continue to establish, cooperative relationships with third parties to improve their product offerings and to increase the availability of their products to the marketplace. The entry of new competitors or alliances into our market could reduce our market share, require us to lower our prices, or both. Many of these factors are outside our control, and we may not be able to maintain or enhance our competitive position against current and future competitors.

IF WE FAIL TO INTEGRATE THE OPERATIONS OF THE COMPANIES WE ACQUIRE, WE MAY NOT REALIZE THE ANTICIPATED BENEFITS AND OUR OPERATING COSTS COULD INCREASE.

We intend to continue to pursue strategic acquisitions that will provide us with complementary products, services and technologies and with additional personnel. The identification and pursuit of these acquisition opportunities and the integration of acquired personnel, products, technologies and businesses require a significant amount of management time and skill. There can be no assurance that we will identify additional suitable acquisition candidates, consummate any acquisition on acceptable terms or successfully integrate any acquired business into our operations. Additionally, in light of the consolidation trend in our industry, we expect to face competition for acquisition opportunities, which may substantially increase the cost of any potential acquisition.

We have experienced in the past, and may experience again in the future, problems integrating the operations of a newly acquired company with our own operations. Acquisitions also expose us to potential risks, including diversion of management's attention, failure to retain key acquired personnel, assumption of legal or other liabilities and contingencies, and the amortization of goodwill and other acquired intangible

assets. Moreover, customer dissatisfaction with, or problems caused by, the performance of any acquired products or technologies could hurt our reputation.

In particular, on May 31, 2002, we acquired Hyprotech Ltd. and related subsidiaries from AEA Technology plc for approximately L67.5 million in cash. The Hyprotech business operates globally and is the second largest acquisition we have made. The integration of the personnel, products and technologies of Hyprotech will require significant management time and skill, and our inability to complete the integration effectively and efficiently could cause our operating results to suffer.

We have funded the Hyprotech acquisition substantially from the proceeds of convertible preferred stock and common stock financings completed in 2002. We may issue additional equity securities or incur long-term indebtedness to finance future acquisitions. The issuance of equity securities could result in dilution to existing stockholders, while the use of cash reserves or significant debt financing could reduce our liquidity and weaken our financial condition.

IF WE DO NOT CONTINUE TO MAKE THE TECHNOLOGICAL ADVANCES REQUIRED BY THE MARKETPLACE, OUR BUSINESS COULD BE SERIOUSLY HARMED.

Enterprises are requiring their application software vendors to provide greater levels of functionality and broader product offerings. Moreover, competitors continue to make rapid technological advances in computer hardware and software technology and frequently introduce new products, services and enhancements. We must continue to enhance our current product line and develop and introduce new products and services that keep pace with the technological developments of our competitors. Our business and operating results could suffer if we cannot successfully respond to the technological advances of others or if our new products or product enhancements and services do not achieve market acceptance.

We must also satisfy increasingly sophisticated customer requirements. Under our business plan, we are investing significantly in the development of new business process products that are intended to anticipate and meet the emerging needs of our target market. We are focusing significantly on development of these products, which means we will not invest as substantially in the continued enhancement of our current products. We cannot assure you that our new product development will result in products that will meet market needs and achieve market acceptance.

Moreover, our product development for the foreseeable future is expected to be conducted substantially through co-development arrangements with Accenture that we entered into in February 2002. Our previous development activities have been conducted primarily by our employees and consultants, and we have no previous experience in co-developing products with Accenture. Our business and operating results will be seriously harmed if this co-development arrangement does not result in our being able to deliver timely products sought by companies in the process industries.

IF WE ARE UNABLE TO MARKET OUR PRODUCTS SUCCESSFULLY TO SENIOR EXECUTIVES OF POTENTIAL CUSTOMERS, OUR REVENUE GROWTH MAY BE LIMITED.

In recent periods, we have focused increasingly on selling the strategic value of our technology to the highest executive levels of customer organizations, typically the chief executive officer, chief financial officer or chief information officer. We have limited experience in selling and marketing at these levels. If we are not successful at selling and marketing to senior executives, our revenue growth and operating results could suffer.

IF WE ARE UNABLE TO DEVELOP RELATIONSHIPS WITH SYSTEMS INTEGRATORS AND OTHER STRATEGIC PARTNERS, OUR REVENUE GROWTH MAY BE HARMED.

One element of our growth strategy is to increase the number of third-party implementation partners who market and integrate our products. If we do not adequately train a sufficient number of systems integrator partners, or if potential partners focus their efforts on integrating or co-selling competing products to the process industries, our future revenue growth could be limited and our operating results

could be harmed. If our partners fail to implement our solutions for our customers properly, the reputations of our solutions and our company could be harmed and we might be subject to claims by our customers. We intend to continue to establish partnerships with technology companies to accelerate the development and marketing of our solutions. To the extent that we are unsuccessful in maintaining our existing relationships and developing new relationships, our revenue growth may be harmed.

WE MAY REQUIRE ADDITIONAL CAPITAL.

We may need to raise additional capital in order to fund the continued development and marketing of our solutions. We expect our current cash balances, cash-equivalents, short-term investments, availability of sales of our installment contracts, availability under our bank line of credit and cash flows from operations will be sufficient to meet our working capital and capital expenditure requirements for at least the next twelve months. However, we may need to obtain additional financing thereafter or earlier, if our current plans and projections prove to be inaccurate or our expected cash flows prove to be insufficient to fund our operations because of lower-than-expected revenues, unanticipated expenses or other unforeseen difficulties or to fund one or more acquisitions. Our ability to obtain additional financing will depend on a number of factors, including market conditions, our operating performance and investor interest. These factors may make the timing, amount, terms and conditions of any financing unattractive. They may also result in our incurring additional indebtedness or accepting stockholder dilution. In addition, in 2002, we have issued the shares of Series B preferred stock, as well as the warrants exercisable for a portion of the shares of common stock being offered by this prospectus, that contain anti-dilution provisions, rights of first refusal and other terms that may limit or impair our ability to raise additional funds through future financings. If adequate funds are not available or are not available on acceptable terms, we may have to forego strategic acquisitions or investments, reduce or defer our development activities, or delay our introduction of new products and services. Any of these actions may seriously harm our business and operating results.

WE MAY SUFFER LOSSES ON FIXED-PRICE ENGAGEMENTS.

We derive a substantial portion of our total revenues from service engagements and a significant percentage of these engagements have been undertaken on a fixed-price basis. We bear the risk of cost overruns and inflation in connection with fixed-price engagements, and as a result, any of these engagements may be unprofitable. In the past, we have had cost overruns on fixed-price service engagements. In addition, to the extent that we are successful in shifting customer purchases to our integrated suites of software and services and we price those engagements on a fixed-price basis, the size of our fixed-price engagements may increase, which could cause the impact of an unprofitable fixed-price engagement to have a more pronounced impact on our operating results.

OUR BUSINESS MAY SUFFER IF WE FAIL TO ADDRESS THE CHALLENGES ASSOCIATED WITH INTERNATIONAL OPERATIONS.

We derived approximately 50% of our total revenues from customers outside the United States in each of the past three fiscal years. We anticipate that revenues from customers outside the United States will continue to account for a significant portion of our total revenues for the foreseeable future. Our operations outside the United States are subject to additional risks, including:

- unexpected changes in regulatory requirements, exchange rates, tariffs and other barriers;
- political and economic instability;
- difficulties in managing distributors and representatives;
- difficulties in staffing and managing foreign subsidiary operations;
- difficulties and delays in translating products and product documentation into foreign languages; and
- potentially adverse tax consequences.

The impact of future exchange rate fluctuations on our operating results cannot be accurately predicted. In recent years, we have increased the extent to which we denominate arrangements with international customers in the currencies of the countries in which the software or services are provided. From time to time we have engaged in, and may continue to engage in, hedges of a significant portion of installment contracts denominated in foreign currencies. Any hedging policies implemented by us may not be successful, and the cost of these hedging techniques may have a significant negative impact on our operating results.

WE MAY NOT BE ABLE TO PROTECT OUR INTELLECTUAL PROPERTY RIGHTS, WHICH COULD MAKE US LESS COMPETITIVE AND CAUSE US TO LOSE MARKET SHARE.

We regard our software as proprietary and rely on a combination of copyright, patent, trademark and trade secret laws, license and confidentiality agreements, and software security measures to protect our proprietary rights. We have registered or have applied to register several of our significant trademarks in the United States and in selected other countries. We generally enter into non-disclosure agreements with our employees and customers, and historically have restricted access to our software products' source codes, which we regard as proprietary information. In a few cases, we have provided copies of the source code for some of our products to customers solely for the purpose of special product customization and have deposited copies of the source code for some of our products in third-party escrow accounts as security for ongoing service and license obligations. In these cases, we rely on non-disclosure and other contractual provisions to protect our proprietary rights.

The steps we have taken to protect our proprietary rights may not be adequate to deter misappropriation of our technology or independent development by others of technologies that are substantially equivalent or superior to our technology. Any misappropriation of our technology or development of competitive technologies could harm our business, and could force us to incur substantial costs in protecting and enforcing our intellectual property rights. The laws of some countries in which our products are licensed do not protect our products and intellectual property rights to the same extent as the laws of the United States.

WE MAY HAVE TO DEFEND AGAINST INTELLECTUAL PROPERTY INFRINGEMENT CLAIMS, WHICH COULD BE EXPENSIVE AND, IF WE ARE NOT SUCCESSFUL, COULD DISRUPT OUR BUSINESS.

Third parties may assert patent, trademark, copyright and other intellectual property rights to technologies that are important to us. In such an event, we may be required to incur significant costs in litigating a resolution to the asserted claims. The outcome of any litigation could require us to pay damages or obtain a license to a third party's proprietary rights in order to continue licensing our products as currently offered. If such a license is required, it might not be available on terms acceptable to us, if at all.

OUR SOFTWARE IS COMPLEX AND MAY CONTAIN UNDETECTED ERRORS.

Like many other complex software products, our software has on occasion contained undetected errors or "bugs." Because new releases of our software products are initially installed only by a selected group of customers, any errors or "bugs" in those new releases may not be detected for a number of months after the delivery of the software. These errors could result in loss of customers, harm to our reputation, adverse publicity, loss of revenues, delay in market acceptance, diversion of development resources, increased insurance costs or claims against us by customers.

WE MAY BE SUBJECT TO SIGNIFICANT EXPENSES AND DAMAGES BECAUSE OF LIABILITY CLAIMS.

The sale and implementation of some of our software products and services, particularly in the areas of advanced process control and optimization, may entail the risk of product liability claims. Our software products and services are used in the design, operation and management of manufacturing processes at large facilities, and any failure of our software could result in significant claims against us for damages or

for violations of environmental, safety and other laws and regulations. Our agreements with our customers generally contain provisions designed to limit our exposure to potential product liability claims. It is possible, however, that the limitation of liability provisions in our agreements may not be effective as a result of federal, state or local laws or ordinances or unfavorable judicial decisions. A substantial product liability claim against us could harm our operating results and financial condition.

IMPLEMENTATION OF OUR PRODUCTS CAN BE DIFFICULT, TIME-CONSUMING AND CUSTOMERS MAY BE UNABLE TO IMPLEMENT OUR PRODUCTS SUCCESSFULLY OR OTHERWISE ACHIEVE THE BENEFITS ATTRIBUTABLE TO OUR PRODUCTS.

Our products are intended to work with complex business processes. Some of our software, such as customized scheduling applications and integrated supply chain solutions, must integrate with the existing computer systems and software programs of our customers. This can be complex, time-consuming and expensive. As a result, some customers may have difficulty in implementing or be unable to implement these products successfully or otherwise achieve the benefits attributable to these products. Customers may also make claims against us relating to the functionality, performance or implementation of this software. Delayed or ineffective implementation of the software products or related services may limit our ability to expand our revenues and may result in customer dissatisfaction, harm to our reputation and may result in customer unwillingness to pay the fees associated with these products.

IF WE ARE NOT SUCCESSFUL IN OUR MANAGEMENT TRANSITION OR IN ATTRACTING AND RETAINING MANAGEMENT TEAM MEMBERS AND OTHER HIGHLY QUALIFIED INDIVIDUALS IN OUR INDUSTRY, WE MAY NOT BE ABLE TO SUCCESSFULLY IMPLEMENT OUR BUSINESS STRATEGY.

Our ability to establish and maintain a position of technology leadership in the highly competitive e-business software market depends in large part upon our ability to attract and retain highly qualified managerial, sales and technical personnel. We have historically relied on the services of Lawrence B. Evans, our principal founder and our Chairman, President and Chief Executive Officer. We recently announced a change in senior management effective October 1, 2002. David L. McQuillin, who will become our Chief Executive Officer in October 2002, has been serving as one of our co-chief operating officer and has not previously served as the chief executive officer of publicly traded corporation. In the future, we may experience the departure of other senior executives due to competition for talent from start-ups and other companies. Our future success depends on a successful management transition and will also depend on our continuing to attract, retain and motivate highly skilled employees. Competition for employees in our industry is intense. We may be unable to retain our key employees or attract, assimilate or retain other highly qualified employees in the future. We have from time to time in the past experienced, and we expect to continue to experience in the future, difficulty in hiring and retaining highly skilled employees with appropriate qualifications.

OUR COMMON STOCK MAY EXPERIENCE SUBSTANTIAL PRICE AND VOLUME FLUCTUATIONS.

The equity markets have from time to time experienced extreme price and volume fluctuations, particularly in the high technology sector, and those fluctuations have often been unrelated to the operating performance of particular companies. In addition, factors such as our financial performance, announcements of technological innovations or new products by us or our competitors, as well as market conditions in the computer software or hardware industries, may have a significant impact on the market price of our common stock. In the past, following periods of volatility in the market price of a public company's securities, securities class action litigation has often been initiated against companies. This type of litigation could result in substantial costs and a diversion of our management's attention and resources.

OUR COMMON STOCKHOLDERS MAY EXPERIENCE FURTHER DILUTION AND THE PRICE OF OUR COMMON STOCK MAY DECLINE AS A RESULT OF OUR RECENT CONVERTIBLE PREFERRED STOCK AND COMMON STOCK FINANCINGS.

In 2002, we have issued the Series B preferred stock together with warrants to purchase 791,044 shares of common stock. We currently have outstanding 40,000 shares of Series B-I convertible preferred stock and 20,000 shares of Series B-II convertible preferred stock.

Each share of Series B preferred stock is convertible into a number of shares of common stock equal to the stated value, which initially is \$1,000, divided by a conversion price of \$19.9703 in the case of the Series B-I convertible preferred stock and \$17.66 in the case of the Series B-II convertible preferred stock, subject to antidilution and other adjustments. If we issue additional shares of common stock, or instruments convertible or exchangeable for common stock, at an effective net price less than the lesser of (a) \$17.75, in the case of the Series B-I convertible preferred stock, or \$15.69 in the case of the Series B-II convertible preferred stock and (b) the then-applicable conversion price for such series, the conversion price for that series will be reduced to equal that effective net price. These adjustments do not apply to the issuance of common stock or such instruments in specified firm commitment underwritten public offerings, strategic arrangements, mergers or acquisitions, and grants and purchases of securities pursuant to equity incentive plans.

The Series B preferred stock accrues dividends at an annual rate of 4% that is payable quarterly, commencing June 30, 2002, in either cash or common stock, at our option (subject to our satisfaction of specified conditions set forth in our charter). From August 7, 2003 until February 7, 2004, for the Series B-I convertible preferred stock, and from August 28, 2003 until February 28, 2004, for the Series B-II convertible preferred stock, holders may require that we redeem up to a total of 20,000 shares of Series B-I convertible preferred stock and 10,000 shares of Series B-II convertible preferred stock if the average closing price of the common stock for the 20 consecutive trading days immediately preceding August 7, 2003 and August 28, 2003, respectively, or any date thereafter is below the then-applicable conversion price. Beginning on February 8, 2004 and February 29, 2004, holders of Series B-I convertible preferred stock and Series B-II convertible preferred stock, respectively, may require that we redeem any or all of their shares. Any such redemption must be made in cash or stock, at our option (subject to our satisfaction of specified conditions set forth in our charter), at a price equal to the stated value plus accrued but unpaid dividends. We will be required to redeem all of the then-outstanding Series B preferred stock on February 7, 2009 at a price equal to the stated value plus all accrued but unpaid dividends. The redemption price may be paid in cash, common stock or both, at our option (subject to our satisfaction of specified conditions set forth in our charter).

As a result of these and other provisions, the Series B preferred stock may be converted, and the warrants may be exercised, at a price per share that may be less than the then-current market price of the common stock, which may cause substantial dilution to our existing common stockholders. If the conversion price of the Series B preferred stock or the exercise price of the warrants decreases as a result of antidilution provisions, the number of shares of common stock issuable in connection with any dividends conversion or redemption could increase significantly.

In May 2002, we sold 4,166,665 shares of common stock, together with five-year warrants to purchase up to 750,000 shares of common stock, in a private placement. In addition, we issued unit warrants, exercisable until July 23, 2002, that could result in the issuance of (a) up to an additional 2,083,333 shares of common stock and (b) five-year warrants to purchase up to an additional 375,000 shares of common stock. If we issue additional shares of common stock, or instruments convertible or exchangeable for common stock, in specified transactions at an effective net price less than the exercise price of any of the five-year warrants, then the exercise price of the warrants will be adjusted pursuant to a weighted average anti-dilution formula. As the result of these and other provisions, these warrants may be exercised at a price per share that may be less than the then-current market price of the stock, which may cause dilution to our existing common stockholders.

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus includes and incorporates forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act. All statements, other than statements of historical facts, included or incorporated in this prospectus regarding our strategy, future operations, financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words "anticipates," "believes," "estimates," "expects," "intends," "may," "plans," "projects," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included or incorporated in this prospectus, particularly under the heading "Risk Factors," that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. We do not assume any obligation to update any of our forward-looking statements.

USE OF PROCEEDS

All of the shares of common stock offered by this prospectus are being offered by the selling stockholders. For information about the selling stockholders, see "Selling Stockholders." We will not receive any proceeds from the sale of shares by the selling stockholders.

The selling stockholders will pay 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 offered shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including all registration and filing fees, Nasdaq listing fees, and fees and expenses of our counsel and our accountants.

SELLING STOCKHOLDERS

The following table and related notes set forth information regarding the beneficial ownership of our common stock as of May 22, 2002 by the selling stockholders. The selling stockholders consist of:

- entities that in February and March 2002 acquired 40,000 shares of our Series B-I convertible preferred stock, 20,000 shares of our Series B-II convertible preferred stock and 5-year warrants to acquire shares of our common stock; and
- entities and individuals that in May 2002 purchased 4,166,665 shares of common stock, 5-year warrants exercisable to acquire shares of our common stock, and 90-day warrants exercisable to acquire (a) additional shares of our common stock and (b) additional 5-year warrants to acquire shares of common stock.

See "Series B Preferred Stock and Warrants" below for a brief summary of terms of the securities issued to the selling stockholders.

The shares of common stock being offered by this prospectus consist of the shares of the common stock acquired by the selling stockholders in May 2002, together with the shares of common stock issued from time to time after the date hereof pursuant to conversions of the Series B preferred stock acquired by the selling stockholders in February and March 2002 and to exercises of the warrants acquired by the selling stockholders in February, March and May 2002. The term "selling stockholder" includes donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from the selling stockholders as a gift, pledge, partnership, distribution or other non-sale related transfer.

We do not know when or in what amounts a selling stockholder may offer shares for sale. The selling stockholders may choose not to sell any of the shares offered by this prospectus. Because the selling stockholders may offer all or some of the shares pursuant to this offering, and because there are currently no agreements, arrangements or understandings with respect to the sale of any of the shares, we cannot estimate the number of the shares that the selling stockholders will hold after completion of the offering. For purposes of the following table, we have assumed that the selling stockholders will sell all of the shares covered by this prospectus.

Beneficial ownership in the following table is determined in accordance with the rules of the SEC, and includes voting or investment power with respect to shares. Shares reflected under "Right to Acquire -- Preferred" consist of shares of common stock issuable within 60 days after May 22, 2002 pursuant to conversions of the Series B preferred stock, and shares reflected under "Right to Acquire -- Warrants" consist of shares of common stock issuable within 60 days after May 22, 2002 pursuant to exercises of warrants, disregarding, in each case, the limitations described in the table and in the last paragraph under "Series B Preferred Stock and Warrants" below. Shares set forth under "Right to Acquire" with respect to a selling stockholder are deemed outstanding for purposes of computing the percentage ownership of that selling stockholder but are not deemed outstanding for purposes of computing the percentage ownership of any other selling stockholder. Unless otherwise indicated below, to our knowledge, all selling stockholders named in the table have sole voting and investment power with respect to their shares of stock, except to the extent authority is shared by spouses under applicable law.

BENEFICIAL OWNERSHIP
 BENEFICIAL OWNERSHIP
 BEFORE OFFERING AFTER
 OFFERING -----

 ----- RIGHT TO
 ACQUIRE SHARES
 OUTSTANDING -----
 ----- TOTAL BEING
 TOTAL SELLING STOCKHOLDER
 SHARES PREFERRED WARRANTS
 NUMBER PERCENTAGE OFFERED
 NUMBER PERCENTAGE - -----

 Pine Ridge Financial
 Inc..... 2,104,600
 1,517,665 1,677,259
 5,299,524 13.7%+
 4,877,924 421,600 1.1%
 c/o Cavallo Capital Corp.
 660 Madison Avenue New
 York, NY 10022
 Perseverance
 LLC..... --
 526,948 129,863 656,811
 1.8+ 656,811 -- -- c/o
 Cavallo Capital Corp. 660
 Madison Avenue New York,
 NY 10022 Smithfield
 Fiduciary LLC.....
 1,200,000 1,090,867
 1,203,832 3,494,699 9.2+
 3,494,699 -- -- c/o
 Highbridge Capital
 Management, LLC 9 West
 57th Street 27th Floor
 New York, NY 10019
 SMALLCAP World Fund,
 Inc..... 482,900 --
 359,590 842,490 2.3
 826,590 15,900 * c/o
 Capital Research and
 Management Company 333
 South Hope Street, 55th
 Floor Los Angeles, CA
 90071 Citadel Equity Fund
 Ltd..... 373,894 --
 192,500 566,394 1.6
 442,500 123,894 * c/o
 Citadel Investment Group,
 L.L.C. 225 West
 Washington St. Chicago,
 IL 60606 Salvadore
 ClaveMarcet.....
 16,665 -- 12,833 29,498 *
 29,498 -- -- 121 Hawkside
 Mews Calgary, Alberta T3G
 3K9 Wayne
 Sim.....
 550,000 -- 423,500
 973,500 2.7 973,500 -- --
 35 Spring Gate Estates
 Calgary, Alberta 3TZ 3L2

 * Less than one percent.

+ This percentage and the number of shares shown as beneficially owned by this selling stockholder under the "Right to Acquire" and "Total Number" columns disregard the limitations on acquiring shares of common stock upon the conversion of Series B Preferred Stock or the exercise of warrants if the conversion or exercise would result in this selling stockholder beneficially owning more than 4.99% of our outstanding common stock without first providing

us with 61 days' notice.

Cavallo Capital Corp. may be deemed to have voting control and investment discretion over the securities held by Pine Ridge and Perserverance as the result of agreements it has entered into with those two entities. In such event, Cavallo would be deemed to beneficially own, before the offering, a total of 5,956,335 shares, or 15.1% of the total outstanding shares of common stock (disregarding the limitations described in the table above), and, after the offering, a total of 421,600 shares, or 1.1% of the total outstanding shares of common stock.

Highbridge Capital Management, LLC is the trading manager of Smithfield Fiduciary LLC and consequently has voting control and investment discretion over the shares of common stock held by Smithfield. Glenn Dubin and Henry Swieca control Highbridge Capital Management, LLC. Each of Highbridge Capital Management, LLC and Messrs. Dubin and Sweica disclaims beneficial ownership of the shares held by Smithfield Fiduciary LLC. The number of shares beneficially owned and the percentage reflected in the table disregard the limitations on the right to acquire shares of common stock described in the table above.

The outstanding shares of common stock reflected as beneficially owned by Citadel Equity Fund Ltd. include 70,338 shares of common stock held by Aragon Investments, Ltd. Citadel Limited Partnership is the trading manager of Citadel Equity Fund Ltd. and Aragon Investments, Ltd. and consequently has voting control and investment discretion over the shares of common stock held by each. Kenneth C. Griffin indirectly controls Citadel Limited Partnership. Each of Citadel Limited Partnership and

Mr. Griffin disclaims beneficial ownership of the shares beneficially owned by Citadel Equity Fund Ltd. and Aragon Investments, Ltd.

The shares of common stock reflected as beneficially owned by Wayne Sim are held of record by 3850544 Canada Inc., a Canadian holding company that is wholly owned by Mr. Sim, with its offices at 400 2nd Avenue S.W., Suite 100, Calgary, Alberta T2P 5E9.

RELATIONSHIPS WITH SELLING STOCKHOLDERS

Two of the selling stockholders have been employed by Hyprotech, Ltd. during the past three years. Salvadore ClaveMarcet has served most recently as Chief Operating Officer of Hyprotech since July 2001, and Wayne Sim has served most recently as the Chief Executive Officer of Hyprotech since June 2000. We acquired the capital stock of Hyprotech and related subsidiaries on May 31, 2002.

Except as described above, none of the selling stockholders has held any position or office with, or has otherwise had a material relationship with, us or any of our subsidiaries within the past three years.

SERIES B PREFERRED STOCK AND WARRANTS

Each share of Series B preferred stock is convertible into a number of shares of common stock equal to the stated value, which initially is \$1,000, divided by a conversion price of \$19.9703 in the case of the Series B-I convertible preferred stock and \$17.66 in the case of the Series B-II convertible preferred stock, subject to antidilution and other adjustments. If we issue additional shares of common stock, or instruments convertible or exchangeable for common stock, at an effective net price less than the lesser of (a) \$17.75, in the case of the Series B-I convertible preferred stock, or \$15.69 in the case of the Series B-II convertible preferred stock and (b) the then-applicable conversion price for such series, the conversion price for that series will be reduced to equal that effective net price. These adjustments do not apply to the issuance of common stock or such instruments in specified firm commitment underwritten public offerings, strategic arrangements, mergers or acquisitions, and grants and purchases of securities pursuant to equity incentive plans.

The Series B preferred stock accrues dividends at an annual rate of 4% that is payable quarterly, commencing June 30, 2002, in either cash or common stock, at our option (subject to our satisfaction of specified conditions set forth in our charter). From August 7, 2003 until February 7, 2004, for the Series B-I convertible preferred stock, and from August 28, 2003 until February 28, 2004, for the Series B-II convertible preferred stock, holders may require that we redeem up to a total of 20,000 shares of Series B-I convertible preferred stock and 10,000 shares of Series B-II convertible preferred stock if the average closing price of the common stock for the 20 consecutive trading days immediately preceding August 7, 2003 and August 28, 2003, respectively, or any date thereafter is below the then-applicable conversion price. Beginning on February 8, 2004 and February 29, 2004, holders of Series B-I convertible preferred stock and Series B-II convertible preferred stock, respectively, may require that we redeem any or all of their shares. Any such redemption must be made in cash or stock, at our option (subject to our satisfaction of specified conditions set forth in our charter), at a price equal to the stated value plus accrued but unpaid dividends. We will be required to redeem all of the then-outstanding Series B preferred stock on February 7, 2009 at a price equal to the stated value plus all accrued but unpaid dividends. The redemption price may be paid in cash, common stock or both, at our option (subject to our satisfaction of specified conditions set forth in our charter).

In general, we may require the selling stockholders to convert their shares of Series B preferred stock into common stock if the closing price of our common stock has exceeded 135% of the applicable Series B conversion price for 25 consecutive trading days at any time after the effective date of this registration statement. We may be precluded from exercising this right in circumstances where some of the 25 trading days occurred after we have publicly announced a change of control event.

The five-year warrants issued to the selling stockholders in connection with the sale of the Series B-I convertible preferred stock are initially exercisable for up to 507,584 shares of common stock at an

exercise price of \$23.99 per share. The five-year warrants issued to the selling stockholders in connection with the sale of the Series B-II convertible preferred stock are initially exercisable for up to 283,460 shares of common stock at an exercise price of \$20.64 per share. If we issue additional shares of common stock, or instruments convertible or exchangeable for common stock, at an effective net price less than the exercise price of a warrant, the exercise price of that warrant will be reduced to equal that effective net price. These adjustments do not apply, however, to the issuance of common stock or such instruments in specified firm commitment underwritten public offerings, strategic arrangements, mergers or acquisitions, and grants and purchases of securities pursuant to equity incentive plans.

The five-year warrants issued to the selling stockholders in connection with the sale of our common stock are initially exercisable for a total of 750,000 shares of common stock at an exercise price of \$15.00 per share. The unit warrants are exercisable until July 23, 2002 at an exercise price of \$13.20 per share to purchase (a) up to 2,083,333 shares of common stock and (b) additional warrants, exercisable until May 9, 2007, to purchase up to 375,000 shares of common stock at an exercise price of \$15.60 per share. If we issue additional shares of common stock, or instruments convertible or exchangeable for common stock, at an effective net price less than the exercise price of the five-year warrants or additional warrant, the exercise price of such warrants, as the case may be, will be reduced pursuant to a weighted-average anti-dilution adjustment formula. These adjustments do not apply, however, to the issuance of common stock or such instruments in specified firm commitment underwritten public offerings, strategic arrangements, mergers or acquisitions, and grants and purchases of securities pursuant to equity incentive plans.

Under the terms of the Series B preferred stock and related warrants, a selling stockholder may not convert shares of Series B preferred stock or exercise related warrants if the conversion or exercise would result in the selling stockholder beneficially owning more than 4.99% of our outstanding common stock without first providing 61 days' notice to Aspen.

PLAN OF DISTRIBUTION

For purposes of the following description, the term "selling stockholders" includes donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other non-sale related transfer. The selling stockholders may, from time to time, sell any or all of their shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. The selling stockholders may use any one or more of the following methods when selling shares:

- 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 the selling stockholders 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 under Rule 144 under the Securities Act, if available, rather than under this prospectus.

The selling stockholders may also engage in short sales against the box, puts and calls and other transactions in our securities or derivatives of our securities and may sell or deliver shares in connection with these trades.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The selling stockholders do not expect these commissions and discounts to exceed what is customary in the types of transactions involved. Any profits on the resale of shares of common stock by a broker-dealer acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. Discounts, concessions, commissions and similar selling expenses, if any, attributable to the sale of shares will be borne by a selling stockholder. The selling stockholders may agree to indemnify any agent, dealer or broker-dealer that participates in transactions involving sales of the shares if liabilities are imposed on that person under the Securities Act.

The selling stockholders may from time to time pledge or grant a security interest in some or all of the 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 under this prospectus after we have filed an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933 amending 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 the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus and may sell the shares of common stock from time to time under this prospectus after we have filed an amendment to this prospectus under Rule 424(b)(3) or other applicable

provision of the Securities Act of 1933 amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus.

The selling stockholders and any broker-dealers or agents that are involved in selling the shares of common stock may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares of common stock purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

We are required to pay certain fees and expenses incident to the registration of the shares of common stock, including certain fees and disbursements of counsel to the selling stockholders. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

The selling stockholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their shares of common stock, nor is there an underwriter or coordinating broker acting in connection with a proposed sale of shares of common stock by any selling stockholder. If we are notified by any selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of shares of common stock, if required, we will file a supplement to this prospectus. If the selling stockholders use this prospectus for any sale of the shares of common stock, they will be subject to the prospectus delivery requirements of the Securities Act.

The anti-manipulation rules of Regulation M under the Securities Exchange Act of 1934 may apply to sales of our common stock and activities of the selling stockholders.

LEGAL MATTERS

The validity of the common stock offered by this prospectus has been passed upon for us by Hale and Dorr LLP.

EXPERTS

The combined financial statements of the Hyprotech division of AEA Technology plc as at, and for the fiscal year ended, March 31, 2002 included beginning on page F-2 of our current report on Form 8-K dated May 31, 2002 have been incorporated by reference herein and in the related registration statement in reliance upon the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

NOTICE REGARDING ARTHUR ANDERSEN LLP

Our consolidated balance sheets as of June 30, 2001 and 2000 and the consolidated statements of operations, stockholders' equity and comprehensive income (loss) and cash flows for each of the years in the three-year period ended June 30, 2001 incorporated by reference in this registration statement were audited by Arthur Andersen LLP. After reasonable efforts, we have been unable to obtain the written consent of Arthur Andersen to the incorporation by reference in this registration statement of such consolidated financial statements and the related report of Arthur Andersen. Accordingly, we have omitted from this registration statement the consent of Arthur Andersen in reliance upon Rule 437a under the Securities Act.

Section 11(a) of the Securities Act provides that if any part of a registration statement at the time it becomes effective contains an untrue statement of a material fact or an omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, any person acquiring a security pursuant to such registration statement (unless it is proved that at the time of such acquisition such person knew of such untruth or omission) may sue, among others, every accountant who has consented to be named as having prepared or certified any part of the registration statement or as having prepared or certified any report or valuation which is used in connection with the registration statement with respect to the statement in such registration statement, report or valuation which purports to have been prepared or certified by the accountant. Since Arthur Andersen has not consented to the incorporation by reference of our consolidated financial statements in this registration statement, you will not be able to recover against Arthur Andersen under Section 11 of the Securities Act for any untrue statements of a material fact contained in such financial statements or any omissions to state a material fact required to be stated therein.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other documents with the SEC. You may read and copy any document we file at the SEC's public reference room at Judiciary Plaza Building, 450 Fifth Street, N.W., Room 1024, Washington, D.C. 20549. You should call 1-800-SEC-0330 for more information on the public reference room. Our SEC filings are also available to you on the SEC's Internet site at <http://www.sec.gov>.

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and our common stock, including exhibits. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC's Internet site.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC requires 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. Information contained in this prospectus and information that we file with the SEC in the future and incorporate by reference in this prospectus automatically updates and supersedes previously filed information. We incorporate by reference the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act, prior to the sale of all the shares covered by this prospectus.

- (1) our annual report on Form 10-K for the fiscal year ended June 30, 2001;
- (2) our quarterly reports on Form 10-Q for the fiscal quarters ended September 30, 2001, December 31, 2001, and March 31, 2002, respectively;
- (3) our current reports on Form 8-K filed on October 29, 2001, February 12, 2002, March 5, 2002, March 20, 2002, April 5, 2002, May 31, 2002, June 7, 2002, June 18, 2002, July 2, 2002, and July 3, 2002;
- (4) all of our filings pursuant to the Securities Exchange Act after July 3, 2002, the date of filing the amended registration statement; and
- (5) the description of our common stock contained in our registration statement on Form 8-A, as amended by our current report on Form 8-K filed on March 20, 2002.

You may request a copy of these documents, which will be provided to you at no cost, by contacting:

Aspen Technology, Inc.
Ten Canal Park
Cambridge, Massachusetts 02141
Attention: Investor Relations
Telephone: (617) 949-1000
Email: invest@aspentech.com