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**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**Form 10-K**

(Mark One)

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)  
OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the fiscal year ended February 2, 2002
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d)  
OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the transition period from N/A to

Commission file number 0-30877

**Marvell Technology Group Ltd.**

*(Exact name of registrant as specified in its charter)*

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

**77-0481679**  
*(I.R.S. Employer  
Identification No.)*

**4th Floor, Windsor Place, 22 Queen Street, P.O. Box HM 1179, Hamilton HM EX, Bermuda**

*(Address of principal executive offices)*

**(441) 296-6395**

*(Registrant's telephone number, including area code)*

**Securities registered pursuant to Section 12(b) of the Act:**

**None**

**Securities registered pursuant to Section 12(g) of the Act:**

**Common stock, \$0.002 par value per share**

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to the Form 10-K.

As of April 15, 2002, the aggregate market value of the common stock held by nonaffiliates of the registrant was \$2,930,370,887 based upon the last reported sale price of the registrant's common stock on that date as reported by the Nasdaq National Market System.

**DOCUMENTS INCORPORATED BY REFERENCE:**

Portions of the Company's Definitive Proxy Statement to be filed with the Securities and Exchange Commission in connection with the Company's 2002 Annual General Meeting of Shareholders are incorporated by reference into Part III hereof.

As of April 15, 2002, there were 119,327,734 shares of common stock of the Company outstanding.

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## **TABLE OF CONTENTS**

### PART I

Item 1. Business.

Item 2. Properties.

Item 3. Legal Proceedings.

Item 4. Submission of Matters to a Vote of Security Holders.

### PART II

Item 5. Market for Registrant's Common Equity and Related Stockholder Matters.

Item 6. Selected Financial Data.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Item 8. Financial Statements and Supplementary Data.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

### PART III

Item 10. Directors and Executive Officers of the Registrant.

Item 11. Executive Compensation.

Item 12. Security Ownership of Certain Beneficial Owners and Management.

Item 13. Certain Relationships and Related Transactions.

### PART IV

Item 14. Exhibits, Financial Statement Schedules, and Reports on Form 8-K.

SIGNATURES

EXHIBIT 21.1

EXHIBIT 23.1

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**TABLE OF CONTENTS**

	<b>Page</b>
<b>PART I</b>	
Item 1. Business	2
Item 2. Properties	25
Item 3. Legal Proceedings	25
Item 4. Submission of Matters to a Vote of Security Holders	26
<b>PART II</b>	
Item 5. Market for Registrant's Common Equity and Related Stockholder Matters	26
Item 6. Selected Financial Data	27
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations	28
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	53
Item 8. Financial Statements and Supplementary Data	54
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	80
<b>PART III</b>	
Item 10. Directors and Executive Officers of the Registrant	80
Item 11. Executive Compensation	80
Item 12. Security Ownership of Certain Beneficial Owners and Management	80
Item 13. Certain Relationships and Related Transactions	80
<b>PART IV</b>	
Item 14. Exhibits, Financial Statement Schedules and Reports on Form 8-K	80

MARVELL TECHNOLOGY GROUP LTD.

PART I

Item 1. **Business.**

*This Form 10-K contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934 and Section 27A of the Securities Act of 1933. These forward-looking statements involve a number of risks and uncertainties, including those identified in the section of this Form 10-K titled "Additional Factors That May Affect Future Results," which could cause actual results to differ materially from those discussed in the forward-looking statements. Forward-looking statements in this Form 10-K are identified by words such as "believes," "expects," "anticipates," "intends," "estimates," "should," "will," "may" and similar expressions. In addition, any statements which refer to expectations, projections or other characterizations of future events or circumstances are forward-looking statements. We undertake no obligation to release publicly the results of any revisions to these forward-looking statements that could occur after the filing of this Form 10-K. You are urged to review carefully our various disclosures in this Form 10-K and our other reports filed with the SEC that attempt to advise you of the risks and factors that may affect our business.*

**Overview**

We design, develop and market integrated circuits utilizing proprietary communications mixed-signal and digital signal processing technology for communications-related markets. Our products provide the critical interface between analog signals and the digital information used in computing and communications systems and enable our customers to store and transmit digital information reliably and at high speeds. Our core technologies were initially focused on the storage market, where we provide high-performance products to disk drive manufacturers such as Fujitsu, Hitachi, Samsung, Seagate and Toshiba. We subsequently applied our technology to the high-speed, or broadband, communications market, where we provide industry leading physical layer transceivers, which provide the interface between communications systems and data transmission media, to manufacturers of high-speed networking equipment including 3Com Corporation, Accton Technology, Cisco Systems, Dell Computer, Foundry Networks and Intel. In January 2001, we acquired Galileo Technology Ltd., a designer of high-performance internetworking and switching products for the broadband communications market. We are now able to provide high-performance, end-to-end solutions for communications-related markets. All references to Galileo in this Form 10-K refer to Galileo Technology Ltd., our wholly-owned subsidiary.

Marvell Technology Group Ltd. was incorporated in Bermuda in January 1995. Our registered address in Bermuda is 4th Floor, Windsor Place, 22 Queen Street, P.O. Box HM 1179, Hamilton HM EX, Bermuda, and our telephone number there is (441) 296-6395. The address of our United States subsidiary is Marvell Semiconductor, Inc., 700 First Avenue, Sunnyvale, California 94089, and our telephone number there is (408) 222-2500. We also have offices in Israel, Singapore, China, Japan, Taiwan and the United Kingdom. During fiscal 2000, we changed our fiscal year-end to the Saturday nearest January 31. For presentation purposes, we refer to January 31 as our fiscal year-end for all periods.

**Industry Background**

***Satisfying Bandwidth Demand***

Businesses and consumers today are creating rapidly growing demand for broadband access to large volumes of information in multiple forms, including voice, video and data. This demand is driven by the introduction of new data-intensive computing and communications applications, such as web-based commerce, streaming audio and video, enterprise-wide information systems and telecommuting. In addition, information is increasingly available via networks through a variety of access devices, including personal computers, digital cable set-top boxes, handheld computing devices known as personal digital assistants and wireless phones. These applications and devices require increasingly higher data transfer rates within

computing systems and the data storage devices that support them and across the network communication infrastructures that serve them.

Achieving high integrity data recovery and transmission becomes increasingly difficult at higher data transfer rates. Data transfer rates, often referred to as bandwidth, are measured in terms of bits per second transmitted over a given medium. In addition, computing and communications systems must transfer data reliably at very high speeds using a wide range of physical transmission media, including magnetic and optical storage disks, twisted pair copper wire, coaxial cable, fiber-optic cable and open air.

A critical element of these computing and communication systems is a physical layer device, which performs the important interface functions between the computing and communications systems and the storage or transmission media. In computing systems, data is stored on a hard disk drive in analog form, but these analog signals must be converted to digital signals for use within the computer systems. Similarly, in communications systems, data is typically transferred over the transmission medium using analog signals; however, within the communications systems, data is processed digitally. The physical layer device provides the critical interface between the analog signals stored on magnetic disk drives and transmitted across physical media and the digital data that computers can understand and manipulate. Physical layer devices often determine the overall performance of the computing or communications system. In order to achieve high integrity in data transmission and recovery at high transfer rates, physical layer devices must overcome a number of factors that can impair signal quality and introduce errors, including substandard media, noise, signal level degradation over distance, adjacent line and multi-path interference and signal echo. In many computing systems and communication networks, bandwidth bottlenecks arise where the media and physical layer devices are incapable of supporting the required data transfer rates. As transmission speeds approach the fundamental limits of a particular transmission media, physical layer devices must increasingly employ sophisticated signal processing algorithms and techniques to accurately recover the transmitted data.

To meet the demands of increasingly higher data transfer rates within computing systems and across communications networks, the data must be more reliably and intelligently transmitted across the systems. This is resulting in a transition from repeater to switch connections. Switches route data through the communications system with bandwidth dedicated to each end-user and have the potential to intelligently manage the data transmission. Unlike a switch, a repeater, which also transmits data across the system, provides less intelligence and shares the bandwidth among end-users resulting in less reliable and predictable transmission. Additionally, there is an increased demand on today's switches as previously separate voice communications systems, video communications systems and data communications systems are converged into single systems that handle voice, video and data seamlessly.

Also, as the rate and variety of data transmission increases, the communications systems that support such transmissions must handle more data and employ more sophisticated functions. This puts an increasing strain on the host central processing unit, or CPU, within the system and, as a result, makes the subsystems that support the CPU more critical. The system controller supports the CPU by managing the movement of data to the various data processing functions to free up the host CPU so that it can concentrate its resources on other more processor intensive functions while the data movement is taking place.

High-performance communications-related end markets in which the availability of bandwidth and the management of data present critical problems include the storage and broadband communications markets.

### **Storage**

A substantial portion of all business and personal information is recorded on magnetic disk drives in data servers, workstations, personal computers and other consumer devices. As end-user data requirements increase, disk drive suppliers must consistently offer drives with faster data transfer rates and higher capacities. Disk capacity is measured by areal density, which is the amount of data stored on one square inch of disk space. Current high-performance disk drive systems offer data transfer rates of approximately 750 to 950 megabits per second and capacities of up to 200 gigabytes. In comparison, high-performance disk drive systems in 1998 offered data transfer rates of approximately 200 to 250 megabits per second and capacities of up to 50 gigabytes.

## [Table of Contents](#)

A critical component in every disk drive is the read channel. The read channel is a physical layer device that transmits and receives the data that is stored on the magnetic disk and converts it to the digital data required for use in computing systems. The read channel plays a critical role in enabling the disk drive to achieve higher data transfer rates and areal densities. Often, the read channel can become the limiting bottleneck for the entire disk drive system because higher data transfer rates complicate recovery of the data stored on the disk. As data tracks are packed more closely together to achieve greater areal density, problems arise from interference between adjacent data tracks. These challenges require increasingly sophisticated read channel designs.

In addition, as disk drive manufacturers seek to reduce costs, they are increasingly demanding that functions traditionally performed by stand-alone integrated circuits be combined with the read channel into a single integrated circuit referred to as a system-on-chip, or SOC. Components which are now integrated into a single chip include the read channel, hard disk controller, embedded memory and one or more microprocessors.

### ***Broadband Communications***

In recent years there has been a rapid increase in the volume of data transmitted across and within computer networks, the public telephone infrastructure and the Internet. Communications infrastructures are constantly evolving to support this increase in data transmission demand. In computer networks that span relatively large geographical areas, known as wide area networks, or WANs, this increase in data transmission demand has driven the deployment of high capacity fiber-optic transmission systems and new broadband access technologies, such as cable modems and digital subscriber lines. In computer networks that span relatively small geographical areas, known as local area networks, or LANs, this increase in data transmission demand has resulted in a transition from the 10 megabit per second Ethernet technology to the 100 megabit per second Fast Ethernet technology and the 1,000 megabit per second Gigabit Ethernet technology. In addition, 10 Gigabit Ethernet, which provides data transfer rates of 10,000 megabits per second, is now being used in server and backbone connections.

In the broadband communications market, physical layer devices, switches, system controllers and communications controllers are critical to the deployment of new, higher data rate transmission technologies. Gigabit data transmission rates present significant data recovery and management challenges. We believe that many businesses have made significant investments installing computer networks using copper twisted pair wires. A number of problems, such as interference from adjacent lines and signal echo, arise when transmitting data at gigabit rates on the existing copper twisted pair wire. The most common form of copper twisted pair wire installed was originally designed to support 100 megabit per second data transfer rates. As a result, the deployment of Gigabit Ethernet requires either the costly and time-consuming task of upgrading this wiring or the deployment of new physical layer devices that enable gigabit transmission rates on the existing infrastructure.

Today's communication networks are being re-architected to efficiently support voice, video and data. Instead of equipping and managing disparate systems — one for voice, one for video, one for data — the convergence of these systems creates a single, more efficient system. In the rush to provide converged networking advantages to their customers, today's broadband communications companies face significant issues, including the fact that voice networks are inefficient for transferring data and data-optimized networks were not designed to carry voice or video. To efficiently support voice, video and data, each point in the network must be re-architected to allow these different types of data to move through a single converged network with reliability and quality.

### ***The Opportunity for New Integrated Circuit Solutions***

The rapidly growing demand for products that enable the transmission of large volumes of data at high speeds is creating the need for a new generation of integrated circuit solutions:

- Physical layer devices that are capable of supporting increasingly higher data transmission rates over existing media infrastructures.

## [Table of Contents](#)

- Switches that have the intelligence to process and provide routing management functions and carry information in multiple forms including voice, video and data.
- System controllers that improve CPU subsystem performance thus enabling the quick and efficient movement of data.
- WAN communication controllers that bridge the LAN with the Internet infrastructure.
- Wireless LAN chipsets that enable reliable, high speed data transmission for wireless connectivity.

To keep the power consumption of these new solutions at acceptable levels, more efficient yet powerful signal processing algorithms, implemented in silicon, are required. These next-generation devices must also satisfy market demands associated with large production volumes, competitive pricing, high reliability and decreased size. Also to meet these demands, we expect the trend to continue towards integrating into one chip various functions that are generally implemented in discrete integrated circuits. Integration reduces the overall number of components in a system, thereby reducing overall system cost.

### **Our Solution**

Our integrated circuits incorporate precise mixed-signal technologies and complex signal processing algorithms. Our products allow our customers to store and move digital data reliably at high data transfer rates while using existing media infrastructures. Our products are also used for transmitting and recovering digitally converted analog signals to and from various types of broadband communications media.

Our products target high volume markets where some of the most critical success factors are performance, features, power consumption, quality and cost. We initially applied our mixed-signal and digital signal processing technology to the storage market, where we provide read channel devices and preamplifiers to meet the high data transfer rate, high areal density and data integrity requirements of our customers. A preamplifier amplifies the low level electrical signal transmitted to and from the recording heads in a disk drive device. Subsequently, our leadership position in read channel technology enabled us to successfully develop system-on-chip, or SOC, products for the storage market. Our SOCs are integrated devices incorporating the read channel, hard disk controller, embedded memory and one or more microprocessors into a single integrated circuit. We have also applied our core technology to developing high-performance physical layer devices for the broadband communications market. We have developed physical layer devices for 10 and 100 megabit per second Ethernet and Fast Ethernet applications. Our Fast Ethernet physical layer devices are manufactured in 0.25- and 0.22-micron complementary metal oxide semiconductor, or CMOS, manufacturing process and provide long distance signal transmission capability and low power consumption. We have also developed Gigabit Ethernet physical layer devices for use with existing copper twisted pair wiring infrastructures as well as over fiber-optic cabling. Our Gigabit Ethernet physical layer devices are manufactured in 0.18- and 0.15-micron CMOS manufacturing processes and address the reduced signal quality of gigabit data rate signals on existing copper twisted pair wiring infrastructures. Additionally, we have also developed a 10 Gigabit Ethernet physical layer device that can be used, among other applications, in the backplane for interconnection between line cards. This 10 Gigabit Ethernet device is manufactured in 0.15-micron CMOS manufacturing process.

We also design integrated circuits that perform the critical functions in converged network systems, in which voice, video, and data are handled seamlessly using Internet Protocol, or IP, techniques. We have developed several product families for broadband communication system vendors that address the important subsystems in communication systems — the CPU subsystem, the LAN subsystem and the WAN subsystem. As the increased system bandwidth places higher demands on the CPU, our highly integrated system controllers greatly improve CPU subsystem performance. The strong technical foundation established for the creation of the system controller products has been used to create our WAN communication controllers. Our WAN communication controllers consist of products that integrate most of the system blocks needed to implement converged voice/data routers. We also offer switch Ethernet controllers and processors for the LAN subsystems. Our physical layer technology and expertise combined with our system-level technology and

## [Table of Contents](#)

expertise provides our customers with complete solutions, which we believe enables them to introduce their products to the market more quickly than they can with other solutions.

Key features of our technology solutions include:

- *Mixed-Signal Broadband Analog Front-End Technology.* One of the most critical components of many communications-related mixed-signal integrated circuits is the analog front-end. The analog front-end is the analog-to-digital and digital-to-analog converter that serves as the interface between the digital signal processor and the physical transmission medium. We have developed high precision analog front-ends that are implemented in CMOS manufacturing processes. We are able to design these broadband analog front-ends due to a number of innovations, including proprietary self-calibration techniques that compensate for the inherent variations of these processes. Our analog circuits are designed to be highly reusable across many of our products and easily scalable to new CMOS processes as they emerge.
- *Custom Digital Signal Processors.* We have designed high-performance, low power usage digital signal processors for broadband communications applications. These processors are customized to execute our suite of advanced digital signal processing algorithms in real time at high speeds. For example, our latest generation read channel device performs several hundred billion operations per second.
- *Proprietary Digital Signal Processing Algorithms.* Our advanced digital signal processing algorithms enable data transmission at high speeds across a wide range of physical media with low data error rates. These digital signal processing algorithms improve performance in the presence of media imperfections such as substandard media, noise, signal level degradation over distance, adjacent line and multi-path interference and signal echo. We have developed a broad suite of communications algorithms targeted at both storage and broadband communications applications.
- *Design For Advanced CMOS Manufacturing Processes.* In addition to CMOS, there are several modern processes for manufacturing integrated circuits including Bipolar CMOS, or BiCMOS, silicon germanium and gallium arsenide. While it is significantly more difficult to design high-performance analog integrated circuits in CMOS, CMOS provides multiple benefits compared to many other processes, including significantly lower manufacturing cost, more predictable migration to smaller process geometries, more cost effective integration of additional functions in a single integrated circuit and greater worldwide foundry capacity. We have successfully combined advanced analog signal processing blocks with high-speed digital signal processors in 0.25-, 0.22-, 0.18- and 0.15-micron CMOS manufacturing processes. Based on conversations with our customers, we believe that we have achieved a level of circuit speed performance in CMOS process technologies that has typically only been achieved with more expensive special fabrication techniques, such as BiCMOS.
- *Reusable Building Blocks For Integrated System-On-Chip Design.* We have developed a proprietary set of manufacturing process design rules that we believe are scalable over several generations of manufacturing process geometries. We have also collected a significant library of circuit building blocks that can be reused with modification in successive generations of products. These design methodologies allow us to reduce time-to-market for new products and take advantage of the latest CMOS manufacturing processes.
- *Internet Protocol Knowledge.* Internet Protocol technologies have been widely selected as the core technologies for converged networks. We have developed intimate knowledge in IP technologies. This has allowed us to develop integrated circuits that exemplify the implementation of a state-of-the-art set of products that uses IP technologies to deliver a comprehensive solution for networks where it is critical to effectively carry multiple types of media, to guarantee quality of service, to bill for services and establish service level agreements, to provide redundancy for high reliability and to effectively bridge to other technologies like packet-over-SONET, or PoS, and asynchronous transfer mode, or ATM.

## [Table of Contents](#)

Key benefits for our customers are:

- *High Performance.* In the storage market, our products achieve high data transfer rates and areal densities. In the broadband communications market, our products achieve the required low error rates when used with lower quality media and attain superior signal transmission distance when used with standard media. Our broadband communications products are designed to enable businesses to increase their network performance without the expense associated with upgrading to new wiring.
- *Low Power.* Our custom digital signal processors use fewer transistors to perform data transfer functions than the standard designs used by some of our competitors, thereby reducing overall system power usage. We also implement our designs in advanced CMOS processes, which further reduces power requirements. These designs allow our customers to eliminate costly heat reduction components in their products.
- *Cost Effective.* We are able to lower our manufacturing costs by using advanced manufacturing processes and our custom digital signal processing technology. These processes and technologies allow us to use a smaller silicon chip size, which results in more integrated circuits per wafer. In addition, our products generate less heat, which allow us to use less expensive packaging technologies and achieve lower cost system implementations than for products that generate more heat. These manufacturing advantages reduce the cost of next-generation communications equipment, enabling our customers to offer their products at competitive prices.
- *High Integration Capability.* The combination of our use of CMOS manufacturing processes, small silicon chip size and low power requirements allow us to increase the number of functions in a single integrated circuit. These capabilities position us to integrate elements of our customers' designs, currently implemented in discrete integrated circuits, into our products. Integration reduces the overall number of components in a system, thereby reducing overall system cost.
- *Accelerated Time-To-Market.* We help our customers rapidly introduce higher performance, lower cost products. Many features of our integrated circuits are software-configurable, allowing our customers to customize circuit operation for their specific applications. In addition, although our customers have traditionally internally developed the key application-specific integrated circuits, or ASICs, for their network systems or used programmable logic, such as field programmable gate-arrays, they have recently begun to outsource this product. We can develop these products more rapidly and at a lower cost while achieving higher performance than our customers can develop them internally because of the larger size of our potential market and the resources we dedicate to such functions. In product areas where reconfiguration or flexibility is important, we also offer software configurable control circuits and modules. Additionally, many of our new products are supported by evaluation boards and reference designs to accelerate our customer's development activities. Evaluation boards facilitate the adoption of our semiconductor devices by closely resembling actual end-products or subsystems within them.

Based on our operational management and financial reporting structure, we have determined that we have one reportable business segment: the design, development and sale of integrated circuits. Please see the financial information regarding this reportable business segment set forth in Item 6 of this Form 10-K and the information regarding our net revenues and long-lived assets based on geographic regions included in Note 11 to our Consolidated Financial Statements set forth in Item 8 of this Form 10-K.

## **Our Strategy**

Our objective is to be a leading provider of extreme broadband system-level communications integrated circuit solutions. Key elements of this strategy include the following:

### ***Expand Market Position By Developing New Signal Processing Technologies for Broadband Communications-Related Applications***

We have built expertise in the core areas of technology that are relevant for broadband communications, including mixed-signal circuit design methodologies, broadband signal processing algorithms, custom digital signal processors and system-level expertise. We intend to continue to invest considerable resources in developing new and enhanced algorithms and improved mixed-signal and digital signal processing technologies. We expect that our investment will allow us to develop products that can achieve data transmission speeds approaching the fundamental limits of particular physical media infrastructures. Our core signal processing technologies can be applied to a wide range of communications-related markets, including storage, data networking and wireless networking.

### ***Leverage Technology in the Broadband Communications Market***

We initially applied our mixed-signal and digital signal processing technology expertise to the communications market through the introduction of physical layer devices using the Fast Ethernet networking protocol. These physical layer devices provide long distance signal transmission capability and low power consumption. We then applied our technology to developing Gigabit Ethernet and 10 Gigabit Ethernet physical layer devices. Additionally, we have begun to integrate our physical layer devices with functions previously provided by other integrated circuits, such as the media access controller. The media access controller is the component that controls access by different devices to the physical media to ensure that signals sent from different devices over the same channel do not collide.

With our acquisition of Galileo completed, we are able to offer our customers both physical transmission solutions and system architecture expertise. We are leveraging our expertise in designing products that enable the movement of data at high transfer rates with our strength in designing high-performance switching and internetworking products. This effort has allowed us to integrate multiple product functions to address the demands of today's broadband communications market for single chips that decrease the cost of and increase the performance of our customers' communications systems. Additionally, we plan to leverage Galileo's technology to deliver products to one of the most promising segments of the communications market: converged-networks that carry voice, video, and data across LANs and WANs.

### ***Extend Leadership Position in the Storage Market***

The storage market presents a large volume opportunity for our broadband mixed-signal and digital signal processing technologies. We believe our technology effectively addresses the increasing data access rates and higher data integrity and reliability requirements of the storage markets. We have achieved significant market share in the enterprise and mobile computing segments of the storage market. These segments of the storage market demand the highest performance read channel products.

We intend to extend our leadership position in the enterprise and mobile computing market segments by continuing to develop and introduce products enabling higher data transfer rates and areal densities. In addition, we intend to extend our market position in the desktop personal computer segment.

We believe that, for us, the storage market is one of the technology and logistics drivers for the rapid and cost-effective development of our communications products and, therefore, it is important that we continue to develop new high-performance products and product enhancements for the storage market. Applying our mixed-signal and digital signal processing technology to develop products for the high-performance storage markets, and testing and improving the products for this market adds to our library of proprietary technology and allows us to more rapidly apply this technology to develop products in the communications market. In

In addition, the demanding logistics of product delivery to the storage market has required us to establish systems that enable efficient and timely delivery systems to support the communications market.

***Strengthen and Expand Our Relationships with Current and Potential Customers***

We intend to continue to strengthen and expand our relationships with customers by identifying our customers' evolving needs and designing new products and product functions to meet these needs. For example, while we design products that can be used by multiple customers, we often customize our products to incorporate our customers' specific requirements. As the markets we address become increasingly complex and competitive, we anticipate that many of our customers will increasingly wish to combine elements of their designs with our own designs. We intend to jointly develop highly integrated products with our customers to meet their cost and performance requirements and to strengthen relationships with them.

***Capitalize on Widely Available CMOS Manufacturing Processes and Fabless Operating Model***

We intend to continue to use widely available CMOS processes to manufacture our advanced mixed-signal and digital signal processing products. We believe this will better enable us to reliably manufacture our products in volume, thereby decreasing our time-to-market and costs, while also facilitating the development of highly integrated products. We have recently developed our own embedded memory technology for complex system-on-chip designs. We are also in the process of developing products that integrate our core mixed-signal and digital signal processors with other internal solutions, and we are developing and are in production with various products integrating our customers' silicon components and on-chip memory with our own technology.

We are a fabless integrated circuit manufacturer in the sense that we rely on third parties to manufacture, assemble and test our products. Our fabless model allows us to focus our resources on the development of proprietary and innovative mixed-signal and digital signal processing designs, while reducing capital and operating infrastructure requirements.

***Expand Our System-Level Approach to Design***

We intend to expand our use of a system-level approach to development of our products to improve the time-to-market and production of our products, and in turn to assist our customers to more rapidly introduce their products to the market. Our system-level approach considers the various components in a system to anticipate and evaluate effectively the various systems issues and tradeoffs that our customers will face when designing our products into their equipment. Our architects, designers, technical marketing engineers and applications engineers have broad knowledge of communications system architectures and advanced microprocessors, allowing us to take a system-level approach in the design of our products. This helps us to partition our devices properly and to attain appropriate levels of integration. A system-level approach also results in modular offerings: a device may operate on a stand-alone basis as a complete basic system or various devices may be interconnected to form a more complex system.

In designing a product, we also conduct system-level simulations in which the software model of a new device interacts with models of the devices with which it will interface in a typical system in order to test system-level operability. These simulations are often conducted with key customers that provide extensive feedback to our design team. As a result, we have successfully designed products highly functional on first silicon. In many cases the products are also production worthy.

**Markets**

We target communications-related markets and applications that require integrated circuit devices for high-speed data transmission. We currently offer solutions for two major communications-related markets: storage and broadband communications.

## **Storage Market**

Demand for storage is increasing rapidly due to the introduction of new data-intensive computing and communications applications, such as web-based commerce, streaming audio and video, enterprise-wide information systems and telecommuting. We provide solutions tailored to the specific needs of the enterprise, desktop and mobile computer segments of the storage market. We are also developing storage solutions for emerging consumer applications.

*Enterprise Computer.* The proliferation of new technologies such as redundant array of independent disks (RAID) systems and network-based storage systems is resulting in increased usage of high-performance storage devices. Enterprise computing applications require systems that are capable of storing and retrieving large amounts of data at high rates. As a result, manufacturers of storage devices for the enterprise computer segment place primary importance on disk drive performance, reliability and capacity and are less concerned with size, power consumption and absolute cost. To accommodate these requirements, we provide the integrated circuits that are essential to produce reliable storage devices with high data transfer rates and high capacity for complex, large-scale processing environments.

*Desktop Computer.* Personal computer users are becoming increasingly price sensitive. As a result, disk drive manufacturers focused on this segment require integrated circuit components that facilitate design for high volume, low cost manufacturing. Our CMOS-based design is well suited to high volume, low cost manufacturing, scalable performance and integration. Due to our ability to deliver high data transfer rates while meeting the cost requirements of the desktop computer segment, we offer cost-conscious manufacturers of desktop computer storage products a migration path for building the high-performance drives of the future.

*Mobile Computer.* Manufacturers of storage devices for the mobile computer segment are primarily concerned with power consumption, heat dissipation, cost and areal density. Our product family targeted at this market segment incorporates advanced digital signal processing technologies. To meet the requirements of this segment, we provide very low power consumption integrated circuits that can accommodate relatively high data transfer rates, which enables high areal density disk drives.

*Emerging Consumer Applications.* We expect that emerging consumer applications, such as digital cameras, digital video recorders and digital audio entertainment centers, will increasingly use storage systems. We are currently developing storage solutions for this market by leveraging our ability to deliver low cost, low power consumption integrated circuits.

## **Broadband Communications Market**

As businesses and consumers seek faster access to increasing amounts of information through local area networks, or LANs, metropolitan area networks, or MANs, and wide area networks, or WANs, such as the Internet, these networks are constrained in their ability to process and transmit information quickly. As a result, broadband communications equipment and systems are undergoing a transformation to allow for increased data transmission speed and the sophistication to intelligently route and process voice, video and data. Previously processed by disparate systems — one for voice, one for video, one for data — these systems are being converged to create a single, more efficient system. Additionally, vendors of broadband communications equipment are increasingly faced with time-to-market pressures and resource constraints, which has augmented the vendors transition from internally developed solutions to third-party semiconductor devices.

We provide solutions tailored to the specific needs of the enterprise networking, carrier access, small office/home office and residential networking, and storage networking segments of the broadband communications market.

*Enterprise Networking.* Local area networks are comprised of different types of equipment interconnected by copper, fiber and/or coaxial cables over a computer networking protocol called Ethernet. As the volume of data transmitted over these networks continues to increase, communications bottlenecks are appearing and new technologies such as Fast Ethernet and Gigabit Ethernet are being employed to replace the older 10 megabit per second technologies. Most desktop connections have migrated to the 100 megabit per second Fast Ethernet standard, and we believe that the 1,000 megabit per second Gigabit Ethernet standard

## [Table of Contents](#)

has become the predominant technology for servers and backbone infrastructures that support LANs. We further believe that the desktop connection is migrating to the Gigabit Ethernet standard, and, as this happens, the server and backbone connections will eventually migrate to the new 10,000 megabit per second standard, known as 10 Gigabit Ethernet.

Additionally, enterprise switching equipment is decreasing in physical size while increasing the number of switched connections, or ports. The smaller, high port count equipment helps lower the overall system cost on a per port basis while requiring less space. Such systems demand highly integrated, low power consumption physical transceiver and switched Ethernet controller integrated circuits.

We offer a variety of transceivers, Ethernet switches and system controllers for the specific requirements of enterprise networking market.

*Carrier Access.* The convergence of circuit switched and IP packet based technologies is requiring systems to reliably and intelligently route and process voice, video and data. Carrier access equipment is transitioning from legacy telephony equipment that simply bridges traffic to equipment that performs many higher level functions, including voice over IP, or VoIP, virtual private networks, or VPNs, IP multicast, Multi-Protocol Label Switching, or MPLS, and Network Address Translation, or NAT. Additionally, service providers are constantly exploring new opportunities to generate revenues across their networks. Integrated circuits within carrier access equipment are being required to support a wide variety of mechanisms to transact service level agreements, provisioning and advanced billing, all while guaranteeing reliability, security and redundancy. Also, the increased sophistication and speed of carrier access equipment is placing greater demands on system and communication controllers to drive CPU subsystem performance. Our networking, switching and high-speed transceiver products have been specifically developed to meet the requirements of these new systems.

*SOHO/ Residential Networking.* The increase in the number of multi-PC households and the use of internet appliances has driven the demand for home networking solutions, including the desire for shared broadband Internet access. This shared access requires advanced switching products. Manufacturers of Small Office/ Home Office, or SOHO, switches are primarily concerned with reduced design complexity to minimize time-to-market concerns. Additionally, they demand integrated circuits that are low cost, highly reliable, and allow for the development of systems that are flexible and easy to use. We provide a product family of multi-port Ethernet LAN switches for this market.

The use of wireless networking technologies within the SOHO/residential networking market is growing rapidly due to strong demand for increased convenience in mobile PC applications. Wireless LAN solutions based upon the IEEE 802.11 standard allow consumers and businesses to have high-speed wireless access to their LANs in the home and office. Applications that will benefit from the advancement of 802.11 technologies include mobile and desktop personal computers, personal digital assistants, or PDAs, Internet appliances, wireless IP phones and handheld devices with roaming Internet access. In January 2002, we introduced our first wireless IEEE 802.11b chipset solution for the SOHO/residential networking market.

*Storage Networking.* As companies rely more heavily on data-intensive applications, the amount of information that needs to be managed and stored by organizations is increasing rapidly. Servers and peripheral storage devices such as tape libraries, RAID disks and optical storage systems are adequate for storing data, but server capacity is limited and access to peripheral devices can be slow. As a result, companies have moved toward the use of Storage Area Networks, or SANs, and Network Attached Storage, or NAS, systems.

A SAN connects multiple servers to a centralized pool of disk storage. In a SAN, disk maintenance and routine backups are easier to schedule and control because all of the company's storage is treated as a single resource. In some SANs, the disks themselves can copy data to other disks for backup without any processing overhead at the host computers. The NAS system is a related storage device. The NAS is a specialized file server that attaches to the LAN like any other server or workstation; however, rather than containing a complete operating system, it generally uses a slimmed-down operating system and file system specialized for handling only file reads and writes.

## [Table of Contents](#)

Storage area networks and network attached storage systems require high-performance circuitry. We provide physical layer transceivers and system controllers to the storage networking market.

### **Products**

We offer our customers a wide range of integrated circuit solutions using proprietary communications mixed-signal processing, or CMSP, and digital signal processing technologies. Our product groups include: Storage products, consisting of a variety of read channel, system-on-chip and preamplifier products; and Broadband Communications products, consisting of a variety of transceiver products, switching products, internetworking products and wireless LAN products.

#### ***Storage Products***

We offer (i) many generations of advanced Partial Response, Maximum Likelihood, or PRML, read channel products that are designed to deliver the specific performance requirements for every computing platform, (ii) highly integrated system-on-chip solutions incorporating our high-performance read channel along with other functionality such as the disc controller and memory and (iii) a complete line of preamplifier integrated circuits designed for use with both Magneto-Resistive, or MR, and Giant Magneto-Resistive, or GMR read/write heads.

*Read Channel.* A read channel is an integrated circuit which provides the interface between the analog signals stored on magnetic disk drives and the digital signals that computers can understand and manipulate. The performance of the read channel normally drives the performance of the overall storage system. We utilize advanced mixed-signal and digital signal processing technologies in our array of PRML read channel products. Our technology incorporates an efficient data-encoding scheme in addition to advanced digital filtering and data-detection techniques. Our read channel products allow customers to achieve high areal density in addition to fast data transfer rates for their hard disk drives. Our read channels are designed in digital CMOS processes and utilize custom digital and analog blocks running at very high frequency while achieving low power consumption.

Our read channel integrated circuits target specific feature and performance requirements of the enterprise, desktop and mobile computing markets. We have implemented a strategy to consolidate the signal processing algorithms required by each of our different market segments into a single integrated circuit design. This strategy provides cost savings and reduced product line complexity. Our current read channel products are manufactured in 0.25- and 0.18-micron CMOS manufacturing processes and achieve data transfer rates ranging from 380 megabits per second to 1.2 gigabits per second.

*System-On-Chip.* Our integrated drive electronics platform is a flexible system-on-chip solution that provides increased performance, reduced power consumption and cost savings essential for next-generation hard disk drives. Utilizing our leading-edge read channel physical layer devices as the core for integration, we have the flexibility to either add any number of functional blocks available in our portfolio or to integrate customer provided intellectual property. With our high data transfer rates, our integrated SOC platform provides solutions that have the ability to span multiple product generations, allowing for risk-reduction, cost savings and accelerated time-to-market. These advantages make our integrated SOC platform an ideal solution for enterprise, desktop and mobile systems.

Our current SOC products incorporate the read channel, hard disk controller, embedded memory and one or more microprocessors into a single integrated circuit. Our current SOCs are manufactured in 0.25- and 0.18-micron CMOS manufacturing processes and achieve data transfer rates ranging from 400 megabits per second to 1 gigabit per second.

*Preamplifier.* A preamplifier is an integrated circuit that amplifies the low-level electrical signal transmitted to and from the recording heads in a disk drive device. Preamplifiers operate in two basic modes: read and write. In read mode, preamplifiers provide initial amplification of the high-bandwidth signal from the

read head. In write mode, the preamplifier provides the write head with the high-frequency switched current required for writing on the magnetic media.

We offer a complete line of preamplifier integrated circuits for enterprise, desktop and mobile storage systems. Our CMOS-based preamplifier products provide high-performance, cost-effective solutions for these market segments and are designed for use with both MR and GMR read/write heads. Our current preamplifiers are manufactured in 0.5- and 0.25-micron CMOS manufacturing processes and achieve data transfer rates ranging from 300 megabits per second to 1 gigabit per second.

### **Broadband Communications Products**

We are applying our mixed-signal, digital signal processing, and complex digital design technologies in a variety of broadband communications applications. Our integrated circuits provide the core functionality required for building communications systems, including network interface cards, switches, routers, digital subscriber line access multiplexers, access concentrators, wireless base stations, voice-over-IP gateways, and storage area networks.

*Transceiver Products.* We have a complete line of low power, high-performance physical layer transceiver solutions for demanding networking applications. We provide these transceivers to the enterprise networking and storage networking markets.

*Gigabit Ethernet Transceivers.* We believe our Alaska™ family of Gigabit Ethernet transceivers is the ideal solution for enterprise networking systems where high performance and low power dissipation are absolutely necessary. Each product contains optional built in 1.25 Gigabit serializer/deserializer, or SERDES, functions which allows the device to work seamlessly over either copper or fiber-optic cabling. The design for these products incorporates sophisticated digital signal processing algorithms and power management techniques to achieve low power dissipation. Target applications include network interface cards, LAN-on-motherboards, routers and next-generation switches. Our current Alaska Gigabit Ethernet transceivers are manufactured in 0.18- and 0.15-micron CMOS manufacturing processes.

*10 Gigabit Ethernet Transceivers.* Our Alaska™ X 10 Gigabit Ethernet and backplane transceiver products accelerate the deployment of 10 Gigabit capable systems for the LAN, MAN and WAN markets. The Alaska X transceiver family leverages four generations of SERDES technology from our single, dual and quad-port Alaska Gigabit Ethernet products. Our Alaska X transceivers are manufactured in 0.15-micron CMOS manufacturing process.

*Fast Ethernet Transceivers.* We provide highly reliable, low power, low cost, silicon solutions for Fast Ethernet transceiver applications and the broadband digital network marketplace. Our physical layer products for the Fast Ethernet communications market are highly integrated devices. These devices contain the active circuitry, or ports, needed for interfacing with five, six or eight independent network connections and are typically used by our customers in Fast Ethernet repeaters, hubs, switches and routers. Our products are designed to enable reliable communication over long cable distances and lower quality cable installations. Our current DSP-based Octal and Hex Fast Ethernet transceivers offer several advantages, including Automatic-MDI/ MDIX crossover to automatically and transparently detect and correct improperly wired cables. This makes the installation, debugging and maintenance of the network easier and less expensive for the end user. We were the first to market with a device that supports the Source Synchronous option of the Serial Media Independent Interface, or SMII, specification. This enables simplified system design by reducing the I/ O pin count between the transceiver and the media access controller/switch as well as extending the allowed printed circuit board trace distance. Additional features of our Fast Ethernet transceivers include simplified board design for lower overall system cost, low power consumption for more reliable networking systems and effective utilization of networking bandwidth with jumbo frame support. Our current Fast Ethernet transceivers are manufactured in 0.25- and 0.22-micron CMOS manufacturing processes.

*Switching Products.* We have a broad portfolio of switching solutions for the enterprise networking, carrier access and SOHO/residential networking markets. Our switching products enable voice, video, and

data traffic to be seamlessly carried through the network with full fidelity. Additionally, we are enabling the emergence of packet-based Internet communications of real-time traffic such as telephony and video-on-demand.

*Presteria™* Switching Architecture. The Presteria architecture, our sixth generation of switching solutions, enables system manufacturers to build families of products that address high-density gigabit solutions for the enterprise as well as terabit densities for metropolitan area networks. Using this switching architecture, manufacturers can introduce high-performance, feature-rich and cost-effective products that not only meet today's market needs but also provide a scalable platform for future requirements. The Presteria-MX 10G multi-layer switching family of products are fully integrated 10 gigabit per second wire-speed configurable devices targeted at metropolitan edge and access systems in service provider networks. The Presteria-MX devices target MAN switching applications, including layer 2/3 switching, layer 2 to layer 5 traffic classification for millions of flows, wire-speed ACLs, traffic policing and shaping, granular SLA, longest prefix match, NAT and MPLS functions.

*SOHO Multi-Port Integrated Switches.* Our integrated 10/100 Fast Ethernet switch product family, which support 5-, 6- and 7-port configurations, provide solutions for the SOHO market, where cost, ease-of-use, and flexibility are of paramount importance. Our current product offerings are the first chips in a product family of multi-port Ethernet LAN Switches, targeting the SOHO local area network switching market. These integrated products reduce design complexities and time-to-market barriers typically associated with switch development. We believe these devices offer ideal switch configurations and functionality for SOHO networking, where cost, ease-of-use and flexibility are of paramount importance. Our integrated 5-port and 7-port 10/100 Ethernet switch ICs are optimized for converged voice/video/data networks, allowing for increased network reliability and optimized latency. These devices enable PCs and IP phones to connect through a broadband Internet access pipeline, such as DSL modem, cable modem or fiber WAN, to the Internet, with each LAN port connected by 100 megabit per second switched Ethernet. Our 7-port device consists of two MII ports and five physical layer switched ports, enabling a glueless interface for emerging wireline and wireless Internet access point systems.

*GalNet®-II.* Our GalNet-II family comprises more than 20 products, from Fast Ethernet and Gigabit Ethernet switch controllers, to G.Link crossbars and bridges: all offering a comprehensive switched Ethernet solution. Applications for GalNet-II span the range from SOHO products and rack systems supporting full-wire-speed performance, stacking and state-of-the-art features, to mini-chassis and full-chassis systems providing enterprise users with full converged networking support. Systems using GalNet-II use our proprietary G.Link bus to interconnect switch controllers and crossbar switch fabrics. A very flexible bus, G.Link supports development of very high-performance systems via its high bandwidth and our G.Link crossbar switches. Crossbars are used to route messaging and data between distributed switch controllers and, if present, the management CPU complex. Our G.Link crossbar switches range from 4 to 12 G.Link ports to support development of a wide variety of system architectures. Crossbars may also be interconnected in meshes to support larger numbers of G.Link ports. GalNet-II crossbars are also used with GalNet-2+ and GalNet-3 switched Ethernet controllers, for advanced layer 2 and layer 3/4/5 system applications. GalNet-II switched Ethernet controllers are available supporting a wide range of features and configurations. These switches are combined with others to build systems with up to 256 Fast Ethernet ports, 32 Gigabit Ethernet ports, or combinations utilizing up to 32 switch controllers and CPUs. A major benefit of GalNet-II is software compatibility among switch controllers. Shorter time-to-market is supported via the leveraging of previously developed code in new system applications, often with little or no modification.

*GalNet®-2+.* Utilizing the same architecture as GalNet-II, our GalNet-2+ adds integrated memory and support for advanced Quality of Service, or QoS, via support for packet prioritization. GalNet-2+ supports the native QoS requirements of Windows 2000, which is providing an important catalyst for the development of multimedia applications. GalNet-2+ integrates both the packet and control memories into the switch controller, providing a high level of integration, low chip-count and features. GalNet-2+ switches are combined using GalNet-II crossbars to enable development of high-

## [Table of Contents](#)

performance end products, such as 1U rack-mount stacking switches and modular systems with up to 256 Fast Ethernet ports or 32 Gigabit Ethernet ports.

*GalNet®-3.* Our GalNet-3 family of converged voice/video/data network switch processors provides full-featured layer 2/3/4/5 switch processors supporting the development of high-performance enterprise and edge routers, MAN switches and other communications applications requiring state-of-the-art multimedia support and performance. GalNet-3 products support advanced functions such as 5-tuple flow classification, bandwidth reservation, rate policing and flow statistics gathering. These features enable system developers to design sophisticated applications, such as IP PBXs supporting monitoring and compliance to service level agreements negotiated with Internet service providers. GalNet-3 supports communications over Ethernet, Fast Ethernet, Gigabit Ethernet and OC-12c Packet-over-SONET, or PoS. In addition to ATM connection support, PoS allows designers to conveniently develop converged systems connecting local area networks to metropolitan and wide area networks.

*Internetworking Products.* We have a variety of system controllers and communications controllers for the enterprise networking, carrier access and storage networking markets. System controllers support the CPU by managing the movement of data, to the various data processing functions, to free up the host CPU so that it can concentrate its resources on more processor intensive functions. In general, communications controllers enable data routing between Ethernet and various WAN technologies, such as ISDN, T1/ E1, T3/ E3, Frame Relay and xDSL technologies.

*System Controllers.* We provide high-performance system controllers for MIPS™ and PowerPC™ CPU-based communication systems. Our controllers are extensively used in systems developed by leading OEMs for the Internet infrastructure. These include switches, LAN-WAN edge routers, enterprise routers, access concentrators and telecom equipment. Our highly-integrated system controllers can be combined with the leading embedded RISC microprocessors to form complete CPU subsystems. Our system controllers contain all the key control blocks needed to build high-performance 32-bit and 64-bit CPU subsystems — DRAM controller, peripheral device controller, direct memory access engines, timers, PCI interfaces, interrupt controllers and more. These system controllers provide system designers with the ability to match their CPU performance to the targeted overall system price/ performance. An additional advantage to OEMs using our system controllers over internally developed solutions is that new products are generally software-compatible with older generations — supporting fast development time by re-using software which might otherwise need to be re-developed.

Our latest generation system controllers, the Discovery™ system controllers, are targeted at high-bandwidth communication system applications such as Internet core routers, wireless base stations, and infrastructure equipment for xDSL and storage area networks. Discovery chips integrate high-performance system peripherals and LAN/WAN communication ports with the 64-bit RISC system controller. Our Discovery system controller devices are designed for high-performance communications systems based on industry-standard 64-bit MIPS microprocessors, as well as supporting industry-leading PowerPC processors, including the Motorola MPC74xx and MPC75x families, and IBM's 750 series CPUs. The devices maintain software compatibility with our previous generation system controllers, providing OEMs with a significant time-to-market advantage in the development of their next-generation communications products. Each Discovery chip combines an advanced high-performance crossbar architecture with our system controller technology to deliver unprecedented performance for next-generation Internet infrastructure equipment. Providing up to 102 gigabits per second of aggregate throughput, the crossbar supports non-blocking concurrent transactions among peripherals at full bus speeds, enabling Discovery-based systems to support up to full-duplex OC-48 data rates.

*Communication Controllers.* Our Horizon™ family of advanced communications controllers provides all of the required network interfaces that bridge the LAN with the Internet infrastructure and combines most of the common functions found in multi-service access routers into a single chip. These devices target the core of next-generation multi-service edge routers and remote access equipment that merge the functions of LAN-to-WAN routers, Voice-over-IP gateways, network security equipment and remote access concentrators. The Horizon family has been designed to enable end-to-end Quality-of-

## [Table of Contents](#)

Service for applications that run at the edge of a network with the integration of hardware support for Differentiated Services and 802.1p and 802.1q support. Our Horizon system controllers provide new packet processing capabilities for systems that require the convergence of voice, video and data at the edge of the network. The integrated NetGX™ Coprocessor handles compute-intensive tasks such as flow-classification based on layer 3-5 packet information, encryption and authentication for security purposes and virtually any other packet processing function typically handled by the host CPU. The NetGX Coprocessor frees compute power so the CPU can run multi-service applications such as managing virtual private networks, firewalls and integrated voice services.

**Wireless LAN Products.** In January 2002, we introduced our wireless IEEE 802.11b all-CMOS chipset solution for the SOHO/ residential and enterprise networking market. It is anticipated to be the first in a product family for wireless LANs, offering high integration, high performance and low power consumption. Our solution was the first all-CMOS IEEE 802.11b highly integrated baseband and radio frequency, or RF, chipset. Our solution provides a high-performance and cost-effective solution that meets all IEEE 802.11b wireless LAN specifications and supports a higher performance 22 megabit per second data communications mode. Our wireless IEEE 802.11b solution achieves high bandwidth and robust radio communications performance from a combination of leading-edge DSP and RF technologies. To achieve high signal integrity and optimized throughput, our chipset implements an adaptive signal quality monitoring engine that continually monitors and adapts to the wireless environment, which distinguishes the real networking signal from the surrounding noise. Our RF transceiver integrates the power amplifier, low noise amplifier, voltage controlled oscillator and frequency synthesizer, which are typically implemented in as many as five ICs. We are currently sampling this product with customers and anticipate shipping in production quantities in the second half of fiscal 2003.

### Customers, Sales and Marketing

Our direct sales force targets emerging high growth markets that have high intensity communications processing requirements. Our customers for read channel and preamplifier products are manufacturers of hard disk drives for the enterprise, desktop and mobile computing markets and the emerging consumer applications market. Our target customers for our communications physical layer devices, switches and controllers are leading manufacturers of high-speed networking equipment. Sales of storage products represented 57% and 85% of our net revenues in fiscal 2002 and 2001, respectively, and sales of broadband communications products represented 43% and 15% of our net revenues in fiscal 2002 and 2001, respectively. Prior to fiscal 2001, sales of storage products represented 100% of our net revenues. A small number of customers have historically accounted for a substantial portion of our revenue. Customers representing 10% or more of our net revenue in fiscal 2002, 2001 and 2000 are set forth below:

Customer	2002	2001	2000
Samsung	17%	34%	36%
Toshiba	13%	*	10%
Seagate	13%	22%	24%
Accton(1)	12%	*	*
Fujitsu	*	11%	14%
Hitachi	*	*	14%

(1) The majority of sales to Accton represented designs won by us at companies such as Enterasys Networks, 3Com and Alcatel, which are designed and manufactured in Taiwan under Original Design and Manufacturing (ODM) contracts.

\* Less than 10% of net revenue

To date, substantially all of our storage product sales have been made through our direct sales force. We also complement and support our direct sales force with manufacturers' representatives for storage and communications products in North America, Europe and Asia. In addition, we have distributors who support

## [Table of Contents](#)

our sales and marketing activities in the communications markets in the United States, Europe and Asia. We also use stocking representatives outside of the United States for our communication products. We anticipate that the total amount of sales through distributors will increase in future periods; however, we expect a significant percentage of our sales will continue to come from direct sales to key customers. As of March 31, 2002, our sales and marketing organization consisted of 165 employees, 19 manufacturers' representatives and 11 distributors.

Our sales are made under purchase orders typically received between one week and four months prior to the scheduled delivery date. These purchase orders can be cancelled without charge if notice is given within an agreed upon period. Because of the scheduling requirements of our foundries, we generally place firm orders for products with our suppliers up to sixteen weeks prior to the anticipated delivery date and typically prior to an order for the product. We generally warrant our products for a 90-day period.

Our marketing team works in conjunction with our sales force and is organized around our product applications. Due to the complexity of our products, we introduce new products to major customers with a global tour by a marketing, sales and engineering team. We believe that individual meetings are the most effective and rapid means of communicating the capabilities, benefits and extremely technical specifications of each new product.

We use field application engineers to provide intensive technical support and assistance to existing and potential customers in designing, testing and qualifying systems designs that incorporate our products. We believe that superior field applications engineering support plays a pivotal role in building long-term relationships with customers by improving our customers' time-to-market, maintaining a high level of customer satisfaction and encouraging customers to use our next-generation products.

### **Backlog**

Our sales are made primarily pursuant to standard purchase orders for delivery of products. Due to an industry practice that allows customers to cancel or change purchase orders with limited notice prior to the scheduled shipment dates, we believe that backlog is not a reliable indicator of future revenue.

### **Research and Development**

We believe that our future success depends on our ability to introduce improvements to our existing products and to develop new products that deliver cost effective solutions for both existing and new markets. Our research and development efforts are directed largely to the development of proprietary circuit designs for high-bandwidth communications-related applications. We devote a significant portion of our resources to expanding our core technology library with designs that enable high-performance, reliable communications over a variety of physical transmission media. We are also focused on incorporating functions currently provided by stand-alone integrated circuits into our products to reduce our customers' overall system costs.

We have assembled a core team of engineers who have extensive experience in the areas of mixed-signal circuit design, digital signal processing, CMOS technology and system-level architectures. As of March 31, 2002, we had 636 employees in engineering and process development. We have invested, and expect that we will continue to invest, significant funds for research and development. Our research and development expense was approximately \$93.4 million in fiscal 2002, \$35.2 million in fiscal 2001 and \$14.5 million in fiscal 2000.

### **Manufacturing**

We believe our fabless manufacturing approach provides us with the benefits of superior manufacturing capability as well as flexibility to move the manufacture, assembly and test of our products to those vendors that offer the best capability at an attractive price. Our engineers work closely with our foundries and other subcontractors to increase yields, lower manufacturing costs and improve quality.

### ***Integrated Circuit Fabrication***

Our integrated circuits are fabricated using widely available CMOS processes, which provide greater flexibility to engage independent foundries to manufacture integrated circuits. By outsourcing manufacturing, we are able to avoid the cost associated with owning and operating our own manufacturing facility. This allows us to focus our efforts on the design and marketing of our products. We currently outsource substantially all of our integrated circuit manufacturing to Taiwan Semiconductor Manufacturing Company, or TSMC. We work closely with TSMC to forecast on a monthly basis our manufacturing capacity requirements. Our integrated circuits are currently fabricated in 0.50-, 0.35-, 0.25-, 0.22-, 0.18- and 0.15-micron manufacturing processes. Because finer manufacturing processes lead to enhanced performance, smaller silicon chip size and lower power requirements, we continually evaluate the benefits and feasibility of migrating to smaller geometry process technology in order to reduce cost and improve performance.

### ***Assembly and Test***

Most of our products are shipped from our third-party foundries to third-party assembly and test facilities where they are assembled into finished integrated circuit packages and tested. We outsource all product packaging and testing requirements for these products to several assembly and test subcontractors, including ST Assembly Test Services in Singapore, Siliconware Precision Industries in Taiwan, ASE Electronics in Taiwan and Malaysia and Amkor Technology in the Philippines. The remainder of our products are manufactured on a turnkey basis, in which we purchase fully assembled and tested products from our foundries. Our products are designed to use low cost, standard packages and to be tested with widely available test equipment. In addition, we specifically design our integrated circuits for ease of testability, further reducing production costs.

### ***Quality Assurance***

We build quality into our products starting with the design and development process. Our designs are subjected to extensive circuit simulation under extreme conditions of temperature, voltage and processing before being committed to manufacture. We pre-qualify each of our subcontractors and conduct regular in-depth quality audits. We closely monitor foundry production to ensure consistent overall quality, reliability and yield levels. All of our independent foundries and assembly and test subcontractors have been awarded ISO 9000 certification.

### ***Intellectual Property***

Our future revenue growth and overall success depend in large part on our ability to protect our intellectual property. We rely on a combination of patents, copyrights, trademarks, trade secret laws, contractual provisions and licenses to protect our intellectual property. We also enter into confidentiality agreements with our employees, consultants, suppliers and customers and seek to control access to, and distribution of, our documentation and other proprietary information. Despite these precautions, it may be possible for a third-party to copy or otherwise obtain and use our products and technology without authorization, develop similar technology independently or design around our patents. In addition, we often incorporate the intellectual property of other companies into our designs, and we have certain obligations with respect to the non-use and non-disclosure of their intellectual property. It is possible that the steps taken by us to prevent misappropriation or infringement of our intellectual property or our customers' intellectual property may not be successful.

As of March 31, 2002, we have been issued 26 United States patents on various aspects of our technology, with expiration dates ranging from 2016 to 2021, and we have filed a number of additional United States patent applications. However, there can be no assurance that patents will ever be issued for these applications. Furthermore, it is possible that our patents may be invalidated, circumvented, challenged or licensed to others. Additionally, the laws of some foreign countries in which our products are or may be developed, manufactured or sold, including various countries in Asia, may not protect our products or proprietary information to the same extent as do the laws of the United States and thus make the possibility of piracy of our technology and

## [Table of Contents](#)

products more likely in these countries. We may need to engage in litigation in the future to enforce our intellectual property rights or the rights of our customers, to protect our trade secrets or to determine the validity and scope of proprietary rights of others, including our customers. Such litigation could result in substantial costs and diversion of our resources and could materially and adversely affect our business, financial condition and results of operations.

We have expended and will continue to expend considerable resources in establishing a patent position designed to protect our intellectual property. While our ability to compete is enhanced by our ability to protect our intellectual property, we believe that, in view of the rapid pace of technological change, the combination of the technical experience and innovative skills of our employees may be as important to our business as the legal protection of our patents and other proprietary information.

From time to time, we may desire or be required to renew or to obtain licenses from third parties in order to further develop and effectively market commercially viable products. We cannot be sure that any necessary licenses will be available or will be available on commercially reasonable terms.

The integrated circuit industry is characterized by vigorous pursuit and protection of intellectual property rights, which has resulted in significant and often time consuming and expensive litigation. From time to time, we receive, and may continue to receive in the future, notices that claim we have infringed upon, misappropriated or misused the proprietary rights of other parties. Although we defend these claims vigorously, it is possible that we will not prevail in pending or future lawsuits. In addition, we may be sued in the future by other parties who claim that we have infringed their patents or misappropriated or misused their trade secrets, or who may seek to invalidate one or more of our patents. Any of these claims could materially and adversely affect our business, financial condition and results of operations. Even if claims against us are not valid or successfully asserted, these claims could result in significant costs and a diversion of management and personnel resources to defend. In that event, our business, financial condition and results of operations could also be materially and adversely affected. In any of the pending or future claims or actions asserted against us, we may seek to obtain licenses under a third party's intellectual property rights. However, we may not be able to obtain such licenses on commercially reasonable terms, if at all.

### **Competition**

The markets for storage and broadband communications devices are intensely competitive and characterized by rapid technological change, evolving standards, short product life cycles and pricing pressures imposed by high volume customers. We expect competition to intensify as current competitors expand their product offerings and new competitors enter the market.

We believe that our ability to compete successfully in the rapidly evolving markets for our products depends on a number of factors, including:

- performance, features, quality and price of our products;
- the timing and success of new product introductions by us, our customers and our competitors;
- the emergence of new industry standards;
- our ability to obtain adequate foundry capacity;
- the number and nature of our competitors in a given market; and
- general market and economic conditions.

Our current products face competition from a number of sources. We believe that our principal competitors in the read channel and storage SOC market are Agere Systems and STMicroelectronics. Our primary competitors in the preamplifier market are Agere Systems and Texas Instruments. In the broadband communications market for transceivers, we compete with Broadcom, Intel and National Semiconductor. Our switching products compete against Broadcom and Intel. In the market for system controllers, our competitors include Tundra and PLX Technology, and our WAN communications controllers compete directly with products from companies such as Motorola and PMC-Sierra. In the wireless LAN market, our competitors

## [Table of Contents](#)

include Agere Systems, Intersil, Texas Instruments and Broadcom. In addition, we expect increased competition in the future from other emerging and established companies.

Many of our current competitors and potential competitors have longer operating histories, greater name recognition, access to larger customer bases and significantly greater financial, sales and marketing, manufacturing, distribution, technical and other resources than we do. As a result, they may be able to respond more quickly to changing customer demands or to devote greater resources to the development, promotion and sale of their products than we can. Our current or future competitors may develop and introduce new products that will be priced lower, provide superior performance or achieve greater market acceptance than our products. In addition, in the event of a manufacturing capacity shortage, these competitors may be able to manufacture products when we are unable to do so.

Furthermore, current or potential competitors have established or may establish, financial and strategic relationships among themselves or with existing or potential customers or other third parties to increase the ability of their products to address the needs of customers. Accordingly, it is possible that new competitors or alliances among competitors could emerge and rapidly acquire significant market share, which would harm our business.

In addition, many of our customers and potential customers have substantial technological capabilities and financial resources. Some customers have already developed, or in the future may develop, technologies that will compete directly with our products. We may also face competition from suppliers of products based on new or emerging technologies.

Historically, average unit selling prices in the integrated circuit industry in general, and for our products in particular, have decreased over the life of a particular product. We expect that the average unit selling prices of our products will continue to be subject to significant pricing pressures. In order to offset expected declines in the average unit selling prices of our products, we will likely need to reduce the cost of our products. We intend to accomplish this by implementing design changes that lower the cost of manufacturing, assembly and testing by negotiating reduced charges by our foundries as and if volumes increase and by successfully managing our manufacturing, assembly and testing relationships. Because we do not operate our own manufacturing, assembly or testing facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities. If we fail to introduce lower cost versions of our products in a timely manner or to successfully manage our manufacturing, assembly and testing relationships, our business would be harmed.

[Table of Contents](#)**Management**

Set forth below is certain information regarding the executive officers and some of the other officers of Marvell and its subsidiaries, together with the positions currently held by those persons, as of March 31, 2002.

<u>Name of Officer</u>	<u>Age</u>	<u>Positions Held with Marvell and its Subsidiaries</u>
Sehat Sutardja	40	President, Chief Executive Officer and Co-Chairman of the Board of Marvell Technology Group Ltd.; President, Chief Executive Officer and Director of Marvell Semiconductor, Inc.
Weili Dai	40	Executive Vice President, Corporate Secretary and Director of Marvell Technology Group Ltd.; Executive Vice President, General Manager of the Communications Business Group and Director of Marvell Semiconductor, Inc.
Pantas Sutardja	39	Vice President and Director of Marvell Technology Group Ltd.; Chief Technology Officer and Director of Marvell Semiconductor, Inc.
George Hervey	55	Vice President of Finance and Chief Financial Officer of Marvell Technology Group Ltd.; Vice President of Finance and Chief Financial Officer of Marvell Semiconductor, Inc.
Manuel Alba	46	Director of Marvell Technology Group Ltd.; Vice President of Strategy and Business Development of the Communications Business Group of Marvell Semiconductor, Inc.
Alan J. Armstrong	38	Vice President of Marketing of the Storage Business Group of Marvell Semiconductor, Inc.
Sam Azimi	39	Vice President of System-On-Chip Development of the Storage Business Group of Marvell Semiconductor, Inc.
Jim Ballingall	46	Vice President of Worldwide Operations of Marvell Semiconductor, Inc.
Kaushik Banerjee	38	Vice President of System-On-Chip Development of the Communications Business Group of Marvell Semiconductor, Inc.
Bill Brennan	38	Vice President of Worldwide Sales of the Storage Business Group of Marvell Semiconductor, Inc.
Toai Doan	37	Vice President of Read Channel Development of the Storage Business Group of Marvell Semiconductor, Inc.
Matthew Gloss	36	Vice President of Business Affairs and General Counsel of Marvell Semiconductor, Inc.
Gani Jusuf	39	Vice President of Product Development of the Communications Business Group of Marvell Semiconductor, Inc.
Hoo Kuong	54	General Manager of Marvell Asia Pte. Ltd.
Eliaz Lavi	45	Vice President and Co-General Manager of Galileo Technology Ltd.
Eitan Medina	35	Vice President of Product Definition and Chief Technology Officer of Galileo Technology Ltd.
Nersi Nazari	43	Vice President of Signal Processing Technology of Marvell Semiconductor, Inc.
Gary Smerdon	40	Vice President of Marketing of the Communications Business Group of Marvell Semiconductor, Inc.
Moshe Steiner	43	Vice President and Co-General Manager of Galileo Technology Ltd.
Gary Szilagyi	33	Vice President of Worldwide Sales of the Communications Business Group of Marvell Semiconductor, Inc.

[Table of Contents](#)

Name of Officer	Age	Positions Held with Marvell and its Subsidiaries
Lawrence Tse	43	Vice President of Engineering, Wireless Products of Marvell Semiconductor, Inc.
Albert Wu	45	Vice President of Operations of Marvell Semiconductor, Inc.
LeeChung Yiu	46	Vice President of Engineering, Core Technology of Marvell Semiconductor, Inc.

Set forth below is certain information concerning the business experience during the past five years of each of the individuals named above.

*Dr. Sehat Sutardja, Ph.D.*, is a co-founder of Marvell. Dr. Sutardja has served as our President since inception and as our Co-Chairman of the Board and Chief Executive Officer since February 1995. In addition, he has served as President, Chief Executive Officer and a Director of Marvell Semiconductor, Inc. since its inception. Dr. Sutardja holds Master of Science and Ph.D. degrees in Electrical Engineering and Computer Science from the University of California at Berkeley. Dr. Sutardja is the spouse of Weili Dai and the brother of Dr. Pantas Sutardja.

*Weili Dai* is a co-founder of Marvell. Ms. Dai has served as our Vice President and a Director since inception and our Corporate Secretary since June 2000. Ms. Dai was appointed Executive Vice President in 1996. Ms. Dai has also served as Executive Vice President and a Director of Marvell Semiconductor, Inc. since its inception. Ms. Dai has also held the position of General Manager of the Communications Business Group of Marvell Semiconductor, Inc. since 1999. Ms. Dai holds a Bachelor of Science degree in Computer Science from the University of California at Berkeley. Ms. Dai is the spouse of Dr. Sehat Sutardja.

*Dr. Pantas Sutardja, Ph.D.*, is a co-founder of Marvell. Dr. Sutardja has served as our Vice President and a Director since inception, and as Vice President of Engineering for Marvell Semiconductor, Inc. from its inception until 1999, when he was appointed Chief Technology Officer. Dr. Sutardja has also been a Director of Marvell Semiconductor, Inc. since its inception. Dr. Sutardja holds Bachelor of Science, Master of Science and Ph.D. degrees in Electrical Engineering and Computer Science from the University of California at Berkeley. Dr. Sutardja is the brother of Dr. Sehat Sutardja.

*George Hervey* joined Marvell in April 2000 as our Vice President of Finance and Chief Financial Officer, and serves in a similar capacity for Marvell Semiconductor, Inc. From March 1997 to April 2000, Mr. Hervey served as Senior Vice President, Chief Financial Officer and Secretary for Galileo Technology Ltd., which Marvell acquired in January 2001. From June 1992 to February 1997, Mr. Hervey was Senior Vice President and Chief Financial Officer of S3 Incorporated, a designer and manufacturer of graphics and video accelerators for personal computers and related peripheral products. Mr. Hervey holds a Bachelor of Science degree in Business Administration from the University of Rhode Island.

*Manuel Alba* joined Marvell in January 2001, upon Marvell's acquisition of Galileo Technology Ltd., as the Vice President of Strategy and Business Development of the Communications Business Group of Marvell Semiconductor, Inc. Mr. Alba has also served as a Director of Marvell Technology Group Ltd. since January 2001. From April 1994 until Marvell's acquisition of Galileo, Mr. Alba served as a Director and the President of Galileo Technology Ltd. and as President of Galileo Technology, Inc. Mr. Alba holds a Bachelor of Science degree in Electrical Engineering from the National Polytechnic Institute in Mexico City, a Master of Science degree in Electrical Engineering from the University of Southern California, and a Master of Business Administration degree from Santa Clara University.

*Dr. Alan Armstrong, Ph.D.*, has served as Vice President of Marketing of the Storage Business Group of Marvell Semiconductor, Inc. since July 1999. From 1991 until 1999, Dr. Armstrong held various positions at Cirrus Logic Inc., a designer and manufacturer of analog and mixed signal circuits, including Director of Product Planning and Applications for Data Storage Products. Dr. Armstrong holds a Bachelor of Science degree in Electrical Engineering from San Diego State University and Master of Science and Ph.D. degrees in Electrical Engineering from the University of California at San Diego.

## [Table of Contents](#)

*Saeed (Sam) Azimi* has served as Vice President of System-On-Chip Development of the Storage Business Group of Marvell Semiconductor, Inc. since June 2001. Mr. Azimi served as a System Integration Manager of Marvell Semiconductor, Inc. from November 1997 through May 2001. From 1993 until October 1997, Mr. Azimi held an engineering management position at GEC Plessey Semiconductor, a designer and manufacturer of mixed-signal integrated circuits. Mr. Azimi holds Bachelor of Science and Master of Science degrees in Electrical Engineering from the University of Missouri at Rolla.

*Dr. Jim Ballingall, Ph.D.*, joined Marvell Semiconductor, Inc. in September 2001 as Vice President of Worldwide Operations. From 1997 until September 2001, Dr. Ballingall was Vice President of Worldwide Marketing at UMC, a leading semiconductor foundry. From 1996 until 1997, Dr. Ballingall was General Manager at Novellus Systems, a semiconductor equipment manufacturer. Dr. Ballingall holds a Bachelor of Science degree in Engineering Physics from the University of California at Berkeley and Master of Science and Ph.D. degrees in Applied Physics from Cornell University.

*Kaushik Banerjee* has served as Vice President of System-On-Chip Development of the Communications Business Group of Marvell Semiconductor, Inc. since April 2001. From September 1998 until April 2001, Mr. Banerjee served in various positions at Fujitsu Microelectronics, including Vice President of high-end WAN/ LAN Business Unit at Fujitsu Microelectronics. Prior to that, Mr. Banerjee held various engineering management positions at Silicon Graphics, Inc. and InnovaCom Inc. Mr. Banerjee holds a Bachelor of Science degree in Electrical Engineering from Pratt University and a Master of Science degree in Electrical Engineering from Cornell University.

*Bill Brennan* has served as Vice President of Worldwide Sales of the Storage Business Group of Marvell Semiconductor, Inc. since June 2000. From 1993 until May 2000, Mr. Brennan served as Vice President for Exis, Inc., a firm specializing in account management for semiconductor companies. Mr. Brennan holds a Bachelor of Science degree in Electrical Engineering from the University of Colorado.

*Toai Doan* has served as Vice President of Read Channel Development of the Storage Business Group of Marvell Semiconductor, Inc. since February 2002. Mr. Doan joined Marvell in November 1997 as Engineering Manager of Signal Processing Technology. From December 1995 until October 1997, Mr. Doan held an engineering management position at GEC Plessey Semiconductor. Mr. Doan holds a Bachelor of Science degree in Electrical Engineering from Massachusetts Institute of Technology and a Master of Science degree in Electrical Engineering from Northeastern University.

*Matthew Gloss* has served as Vice President of Business Affairs and General Counsel of Marvell Semiconductor, Inc. since April 2001. Mr. Gloss served as Business Development Manager and Corporate Counsel of Marvell Semiconductor, Inc. from April 2000 through March 2001. From August 1997 to April 2000, Mr. Gloss was an associate attorney at Pillsbury Madison and Sutro LLP (now Pillsbury Winthrop LLP) and additionally worked as independent counsel to numerous, private technology companies. Mr. Gloss holds a Bachelor of Science degree in Economics from the University of Illinois, a Juris Doctorate degree from DePaul University and a Master of Business Administration degree from the Wharton School.

*Dr. Gani Jusuf, Ph.D.*, has served as Vice President of Product Development of the Communications Business Group of Marvell Semiconductor, Inc. since February 2000. From September 1998 to February 2000, Dr. Jusuf was a Research and Development Manager for Agilent Technologies, Inc., which develops test, measurement and monitoring products and devices. From 1995 to August 1998, Dr. Jusuf served as Director of Engineering for Marvell Semiconductor, Inc., where he was responsible for product definition and development. Dr. Jusuf holds Bachelor of Science, Master of Science and Ph.D. degrees in Electrical Engineering and Computer Science from the University of California at Berkeley.

*Dr. Hoo Kuong, Ph.D.*, has served as General Manager of Marvell Asia Pte. Ltd. since June 2000. From March 1996 to September 1999, Dr. Kuong was co-founder and CEO of AIC Semiconductor, Malaysia, an IC package assembly and testing sub-contractor for multi-national companies. Dr. Kuong holds a Bachelor of Science degree from National Cheng Kung University, Taiwan and Master of Science and Ph.D. degrees in Semiconductor Physics from Purdue University.

## [Table of Contents](#)

*Eliaz Lavi* joined Marvell in January 2001, upon Marvell's acquisition of Galileo, as Vice President of Operations of Galileo Technology Ltd. Mr. Lavi has served as Vice President and Co-General Manager of Galileo since October 2001. From 1996 until Marvell's acquisition of Galileo, Mr. Lavi was Vice President of Operations of Galileo Technology Ltd. Mr. Lavi holds a Bachelor of Science degree in Electrical Engineering from the Technion in Israel.

*Eitan Medina* joined Marvell in January 2001, upon Marvell's acquisition of Galileo, as Vice President of Product Definition and Chief Technology Officer of Galileo Technology Ltd. From 1996 until Marvell's acquisition of Galileo, Mr. Medina served in various technical and management positions at Galileo Technology Ltd. From 1992 until 1996, Mr. Medina was Manager of the Implementation Group at Digital Equipment Corporation. Mr. Medina holds a Bachelor of Science degree in Electrical Engineering from the Technion in Israel.

*Dr. Nersi Nazari, Ph.D.*, has served as Vice President of Signal Processing Technology of Marvell Semiconductor, Inc. since October 1997. From 1994 until 1997, Dr. Nazari served as Chief Technologist at GEC Plessey Semiconductors, a designer and manufacturer of integrated circuits, including data storage and data communications products. Dr. Nazari holds Bachelor of Science degrees in Electrical Engineering and Mathematics from Southern Illinois University, a Master of Science degree in Electrical Engineering from the University of Missouri, and a Ph.D. in Electrical Engineering from the University of Colorado.

*Gary Smerdon* joined Marvell in January 2001, upon Marvell's acquisition of Galileo, as the Vice President of Marketing of the Switching Products Business Unit of the Communications Business Group of Marvell Semiconductor, Inc. In June 2001, Mr. Smerdon became Vice President of Marketing of the Communications Business Group of Marvell Semiconductor, Inc. From September 2000 until Marvell's acquisition of Galileo, Mr. Smerdon served as Vice President of Marketing, Switching Products Group of Galileo Technology, Inc. From May 1999 to August 2000, Mr. Smerdon was Vice President of Sales for RealChip Communications, Inc., a communications semiconductor startup. Prior to RealChip, Mr. Smerdon spent the past 14 years at Advanced Micro Devices, Inc., where he held marketing and sales positions, most recently as Director of Marketing for the Networking Products Division. Mr. Smerdon holds a Bachelor of Science degree in Electrical Engineering from Duke University.

*Moshe Steiner* joined Marvell in January 2001, upon Marvell's acquisition of Galileo, as the Vice President and General Manager of the Switching Products Business Unit of the Communications Business Group of Galileo Technology Ltd. Since October 2001, he has served as Vice President and Co-General Manager of Galileo. From October 1999 until Marvell's acquisition of Galileo, Mr. Steiner served as Vice President and General Manager of the Switching Products Group of Galileo Technology, Ltd., and from February 1998 to October 1999, he served as Local Area Network Products Director of Galileo Technology, Ltd. From February 1996 to January 1998, Mr. Steiner was Vice President of Technologies at Zapex Technologies, Inc., a Japanese-American VLSI company that developed solutions for MPEG-2 digital video compression applications. Mr. Steiner holds a Bachelor of Science degree in Civil Engineering and a Master of Business Administration degree from the Technion in Israel.

*Gary Szilagyi* has served as Vice President of Worldwide Sales of the Communications Business Group of Marvell Semiconductor, Inc. since February 2002. From January 2001 until January 2002, Mr. Szilagyi was Vice President of Strategic Account Sales of the Communications Business Group of Marvell Semiconductor, Inc. From 1997 until Marvell's acquisition of Galileo, Mr. Szilagyi served as Director of Sales for Galileo Technology, Inc. From 1991 to 1997, he served in various sales and sales management capacities at Integrated Devices Technology, Inc., including worldwide strategic account management. Mr. Szilagyi holds a Bachelor of Science degree in Electrical Engineering from the University of California at Santa Barbara and a Master of Business Administration from San Jose State University.

*Lawrence Tse* has served as Vice President of Engineering, Wireless Products, of Marvell Semiconductor, Inc. since June 2000. From 1998 to 2000, Mr. Tse served as the Vice President of Engineering for Volterra Semiconductor Corporation, a designer and manufacturer of Power Management Products. From 1990 until 1998, he held various positions at Chrontel, Inc., a designer and manufacturer of mixed-signal Visual Communication Products, most recently as Vice President of Engineering. Mr. Tse holds a Bachelor of

## [Table of Contents](#)

Engineering degree in Electrical Engineering from McMaster University, Canada, and a Master of Science degree in Electrical Engineering from the University of California at Berkeley.

*Dr. Albert Wu, Ph.D.*, joined Marvell Semiconductor, Inc. in August 1998 as the Director of Manufacturing Technology. In November 2001, he was appointed Vice President of Operations of Marvell Semiconductor, Inc. From March 1997 to July 1998, Dr. Wu served as Director of Process Technology Development at Winbond Electronics. From September 1993 to February 1997, Dr. Wu served as Director of Engineering at Monolithic System Technologies, Inc. Dr. Wu holds a Bachelor of Science degree in Electrical Engineering from National Taiwan University and Master of Science and Ph.D. degrees in Electrical Engineering from the University of California at Berkeley.

*Dr. LeeChung Yiu, Ph.D.*, has served as Vice President of Engineering, Core Technology, of Marvell Semiconductor, Inc. since May 1999. From 1994 until 1997, Dr. Yiu served as the Director of Engineering for SEQ Technology Inc., a supplier of Ethernet data communications products for networking applications. From 1997 until 1999, Dr. Yiu was the Vice President of Engineering for Newave Semiconductor Corporation, a privately held company developing integrated circuits for the telecommunications market. Dr. Yiu holds a Bachelor of Science degree in Electrical Engineering from National Taiwan University and Master of Science and Ph.D. degrees in Electrical Engineering from the University of California at Berkeley.

### **Employees**

As of March 31, 2002, we had a total of 966 employees, of which 636 were in research and development, 165 in sales and marketing, 72 in operations and 93 in general and administration. Our employees are not represented by any collective bargaining agreements, and we have not experienced any work stoppage. We consider our relations with our employees to be good.

### **Item 2. Properties.**

As of March 31, 2002, our primary facility, housing research and design functions as well as elements of sales, marketing, administration and operations, is located in Sunnyvale, California. This facility consists of approximately 213,000 square feet and has a lease term expiring in March 2006. In addition to this property, we lease approximately 32,000 square feet in Moshav Manof, Israel for research and design, and approximately 20,000 square feet in Singapore for operations, sales, marketing and administration. We also lease smaller facilities in Bermuda, China, Israel, Japan, Taiwan, the United Kingdom and the United States, which are occupied by administrative offices, sales offices, design centers and field application engineers. Based upon our estimates of future hiring, we believe that our current facilities will be adequate to meet our requirements through fiscal 2003.

We also lease two buildings in California, totaling approximately 72,000 square feet, which are unoccupied as of March 31, 2002. We are attempting to secure subtenants for these buildings. For further discussion of these two facilities and their effect on our financial condition and results of operations, see "Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations" and Note 10 to our Consolidated Financial Statements in "Item 8 — Financial Statements and Supplementary Data."

### **Item 3. Legal Proceedings.**

On July 31, 2001, a putative class action suit was filed against two investment banks that participated in the underwriting of our initial public offering, or IPO, on June 29, 2000. That lawsuit, which did not name Marvell or any of our officers or directors as defendants, was filed in the United States District Court for the Southern District of New York. Plaintiffs allege that the underwriters received "excessive" and undisclosed commissions and entered into unlawful "tie-in" agreements with certain of their clients in violation of Section 10(b) of the Securities Exchange Act of 1934. Thereafter, on September 5, 2001, a second putative class action was filed in the Southern District of New York relating to our IPO. In this second action, plaintiffs named three underwriters as defendants and also named as defendants Marvell and two of our officers, one of whom is also a director. Relying on many of the same allegations contained in the initial complaint in which

[Table of Contents](#)

Marvell was not named as a defendant, plaintiffs allege that the defendants violated various provisions of the Securities Act of 1933 and the Securities Exchange Act of 1934. In both actions, plaintiffs seek, among other items, unspecified damages, pre-judgment interest and reimbursement of attorneys' and experts' fees. These two actions relating to our IPO have been consolidated with hundreds of other lawsuits filed by plaintiffs against approximately 40 underwriters and approximately 300 issuers across the United States. To date, there have been no significant developments in the consolidated litigation. It is expected that a small number of cases will be designated as "test cases" for purposes of initial challenges to the pleadings, which are not expected to be briefed, argued and decided before mid-2002. We believe that the claims asserted against Marvell and our officers are without merit and intend to defend these claims vigorously. Based on currently available information, we do not believe that the ultimate disposition of the lawsuit naming Marvell and our officers will have a material adverse impact on our business or financial condition. However, these claims and any resulting litigation could result in substantial costs and could divert the attention and resources of our management.

On September 12, 2001, Jasmine Networks, Inc. filed a lawsuit in the Santa Clara County Superior Court asserting claims against Marvell for improper use of information and technologies we received during negotiations regarding the potential acquisition of Jasmine by Marvell. The lawsuit claims that we improperly used such information and technologies after signing a non-disclosure agreement with Jasmine. We believe the claims asserted against us are without merit and intend to defend these claims vigorously. Based on currently available information, we do not believe that the ultimate disposition of this lawsuit will have a material adverse impact on our business or financial condition.

We are also party to other claims and litigation proceedings arising in the normal course of business. Although the legal responsibility and financial impact with respect to such claims and litigation cannot currently be ascertained, we do not believe that these matters will result in our payment of monetary damages, net of any applicable insurance proceeds, that, in the aggregate, would be material in relation to our consolidated financial position or results of operations.

**Item 4. Submission of Matters to a Vote of Security Holders.**

No matters were submitted to a vote of security holders during the quarter ended January 31, 2002.

**PART II**

**Item 5. Market for Registrant's Common Equity and Related Stockholder Matters.**

**Market Information**

Our shares of common stock are traded on the Nasdaq National Market under the symbol "MRVL." Our common stock began trading on June 27, 2000, upon completion of our initial public offering. The following table shows, for the periods indicated, the high and low intra-day sale prices for our common stock on the Nasdaq National Market.

	Fiscal Year 2002		Fiscal Year 2001	
	High	Low	High	Low
First Quarter	\$42.00	\$ 7.94	n/a	n/a
Second Quarter	\$32.75	\$19.00	\$ 70.50	\$42.25
Third Quarter	\$34.88	\$12.51	\$109.75	\$41.63
Fourth Quarter	\$46.24	\$22.03	\$ 57.44	\$15.38

As of April 15, 2002, the approximate number of record holders of our common stock was 235.

**Dividends**

We have never declared or paid a cash dividend on our common stock and do not anticipate paying any cash dividends in the foreseeable future.

**Item 6. Selected Financial Data.**

The following selected financial data should be read in conjunction with “Item 7 — Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Item 8 — Financial Statements and Supplementary Data” contained elsewhere in this Form 10-K.

	Years Ended January 31,				
	2002	2001	2000	1999	1998
(In thousands, except per share amounts)					
<b>Consolidated Statement of Operations Data:</b>					
Net revenue	\$ 288,795	\$ 143,894	\$81,375	\$21,253	\$ 625
Operating costs and expenses:					
Cost of goods sold(1)	130,807	67,047	33,773	10,103	312
Research and development(2)	93,422	35,152	14,452	5,837	5,018
Selling and marketing(3)	40,170	21,686	10,436	4,631	1,671
General and administrative(4)	13,191	6,185	3,443	1,190	1,028
Amortization of stock-based compensation	15,022	8,259	2,175	42	—
Amortization of goodwill and acquired intangible assets(5)	418,032	8,031	—	—	—
Acquired in-process research and development(5)	—	234,874	—	—	—
Total operating costs and expenses	710,644	381,234	64,279	21,803	8,029
Operating income (loss)	(421,849)	(237,340)	17,096	(550)	(7,404)
Interest and other income, net	9,994	4,559	330	74	6
Income (loss) before income taxes	(411,855)	(232,781)	17,426	(476)	(7,398)
Provision for income taxes	3,299	2,339	4,356	483	46
Net income (loss)	\$(415,154)	\$(235,120)	\$13,070	\$ (959)	\$ (7,444)
Basic net income (loss) per share	\$ (3.63)	\$ (3.55)	\$ 0.32	\$ (0.03)	\$ (0.24)
Diluted net income (loss) per share	\$ (3.63)	\$ (3.55)	\$ 0.16	\$ (0.03)	\$ (0.24)
Weighted average shares — basic	114,353	66,259	41,094	32,470	30,436
Weighted average shares — diluted	114,353	66,259	81,545	32,470	30,436

	As of January 31,				
	2002	2001	2000	1999	1998
(In thousands)					
<b>Consolidated Balance Sheet Data:</b>					
Cash, cash equivalents and short-term investments	\$ 250,244	\$ 224,063	\$16,600	\$ 5,515	\$ 3,307
Working capital	254,898	215,787	22,611	6,865	2,682
Total assets	2,091,055	2,447,486	46,500	16,563	5,291
Notes payable and capital lease obligations, net of current portion	10,017	—	36	897	21
Mandatorily redeemable convertible preferred stock	—	—	22,353	17,524	13,465
Total shareholders’ equity (deficit)	1,989,727	2,356,666	7,940	(9,350)	(9,578)

- (1) Excludes amortization of stock-based compensation of \$298, \$416, \$11 and \$0 in fiscal 2002, 2001, 2000 and 1999.
- (2) Excludes amortization of stock-based compensation of \$9,837, \$3,367, \$1,373 and \$27 in fiscal 2002, 2001, 2000 and 1999.
- (3) Excludes amortization of stock-based compensation of \$2,655, \$3,997, \$211 and \$4 in fiscal 2002, 2001, 2000 and 1999.
- (4) Excludes amortization of stock-based compensation of \$2,232, \$479, \$580 and \$11 in fiscal 2002, 2001, 2000 and 1999.
- (5) In the fourth quarter of fiscal 2001, we acquired Galileo Technology Ltd. in a transaction recorded as a purchase. In connection with this acquisition, we recorded an in-process research and development charge of \$234.9 million and recorded goodwill and intangible assets of \$2.1 billion, which, prior to the adoption of SFAS 142, were all being amortized over their estimated economic lives by charges to the statement of operations. See “Item 7 — Management’s Discussion and Analysis of Financial Condition and Results of Operations” for a discussion of the expected impact of the adoption of SFAS 142.

**Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.**

**Overview**

We design, develop and market integrated circuits utilizing proprietary communications mixed-signal and digital signal processing technology for communications-related markets. Our products provide the critical interface between analog signals and the digital information used in computing and communications systems and enable our customers to store and transmit digital information reliably and at high speeds. We were founded in 1995, and our business has grown rapidly since inception. We are a fabless integrated circuit company, which means that we rely on independent, third-party contractors to perform manufacturing, assembly and test functions. This approach allows us to focus on designing, developing and marketing our products and significantly reduces the amount of capital we need to invest in manufacturing products. In January 2001, we acquired Galileo Technology Ltd. in a stock-for-stock transaction for aggregate consideration of approximately \$2.5 billion. Galileo develops high-performance internetworking and switching products for the broadband communications market. The acquisition was accounted for using the purchase method of accounting, and the operating results of Galileo have been included in our consolidated financial statements from the date of acquisition.

In the communications market, we offer transceiver products, switching products, internetworking products and wireless local area network products. Our primary customers for our communications products are leading manufacturers of high speed networking equipment.

In the storage market, our products include read channel devices, SOCs and preamplifiers. Our customers for our storage products are manufacturers of hard disk drives for the enterprise, desktop and mobile computer markets and the emerging consumer applications market. The storage market is highly competitive and is dominated by a small number of large companies. These companies have historically experienced marginal profit levels from sales of their storage products and are under enormous pricing pressure from their customers, which they typically pass through to their integrated circuit suppliers.

Historically, a relatively small number of customers have accounted for a significant portion of our revenue. In fiscal 2002, approximately 55% of our net revenue was derived from sales to four significant customers, each of whom individually accounted for 10% or more of our net revenue during this period. In fiscal 2001, approximately 67% of our net revenue was derived from sales to three significant customers, and in fiscal 2000, approximately 98% of our net revenue was derived from sales to five significant customers. We expect to continue to experience significant customer concentration in future periods. In addition, a significant portion of our sales are made to customers located outside of the United States, primarily in Asia. Sales to customers in Asia represented approximately 83%, 92% and 99% of our net revenue for the years ended January 31, 2002, 2001 and 2000, respectively. Because many manufacturers and manufacturing subcontractors of communications and storage devices are located in Asia, we expect that a significant portion of our revenue will continue to be represented by sales to customers in that region. All of our sales to date have been denominated in United States dollars.

Our sales have historically been made on the basis of purchase orders rather than long-term agreements. In addition, the sales cycle for our products is long, which may cause us to experience a delay between the time we incur expenses and the time revenue is generated from these expenditures. We expect to increase our research and development, selling and marketing, and general and administrative expenditures as we seek to expand our operations. We anticipate that the rate of new orders may vary significantly from quarter to quarter. Consequently, if anticipated sales and shipments in any quarter do not occur when expected, expenses and inventory levels could be disproportionately high, and our operating results for that quarter and future quarters may be adversely affected.

Our fiscal year is the 52- or 53-week period ending on the Saturday closest to January 31. In a 52-week year, each fiscal quarter consists of 13 weeks. The additional week in a 53-week year is added to the fourth quarter, making such quarter consist of 14 weeks. Fiscal year 2002 was comprised of 53 weeks, and fiscal years 2001 and 2000 were comprised of 52 weeks. For presentation purposes, our financial statements and notes and

this "Management's Discussion and Analysis of Financial Condition and Results of Operations" refer to January 31 as our year-end.

### **Critical Accounting Policies**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates, and such differences could affect the results of operations reported in future periods. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

*Revenue recognition.* We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred, the price is fixed or determinable and collection is reasonably assured. Under these criteria, product revenue is generally recognized upon shipment of product to customers, net of accruals for estimated sales returns and allowances. However, some of our sales are made through distributors under agreements allowing for price protection and rights of return on product unsold by the distributors. Product revenue on sales made through distributors with rights of return is deferred until the distributors sell the product to end customers. Additionally, collection is not deemed to be "reasonably assured" if customers receive extended payment terms. As a result, revenue on sales to customers with payment terms substantially greater than our normal payment terms is deferred and is recognized as revenue as the payments become due. At January 31, 2002, revenue of \$14.8 million with an associated gross profit of \$8.9 million was deferred. At January 31, 2001, revenue of \$8.6 million was deferred with an associated gross profit of \$6.5 million and all of it related to distributor sales.

Our provision for estimated price protection, sales returns and allowances on product sales is recorded in the same period the related revenues are recorded. These estimates are based on historical sales returns, analysis of credit memo data and other known factors. If actual price protection granted to distributors or product returns exceed our estimates, additional reductions of revenue would result.

We also enter into development agreements with some of our customers. Development revenue is recognized under the percentage-of-completion method, with the associated costs included in research and development expense. We estimate the percentage-of-completion of our development contracts based on an analysis of progress toward completion, which is measured using input measures such as the percentage of completion.

*Accounting for income taxes.* To prepare our consolidated financial statements, we estimate our income taxes in each of the jurisdictions in which we operate. This process involves estimating our actual current tax exposure together with assessing temporary differences resulting from the differing treatment of certain items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which are included within our consolidated balance sheet. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income and, to the extent we believe that recovery is not likely, we must establish a valuation allowance.

Significant management judgment is required in determining deferred tax assets and liabilities and any valuation allowance recorded against net deferred tax assets. We have recorded a valuation allowance of \$2.7 million against our net deferred tax assets as of January 31, 2002, due to uncertainties related to our ability to utilize some of our deferred tax assets before they expire. The valuation allowance is based on our estimates of taxable income in the jurisdictions in which we operate and the period over which our deferred tax assets will be recoverable.

To estimate our tax provision, we consider our taxable income in the various tax jurisdictions in which we operate. We enjoy tax holidays in Bermuda, Singapore and Israel, which expire at various dates and which are subject to our compliance with various terms and conditions set by the local tax authorities. In the United States, we pay income tax on the income of our U.S. subsidiary, Marvell Semiconductor, Inc., and may be

## [Table of Contents](#)

subject to U.S. income tax on any foreign income that is considered to be effectively connected with the conduct of a trade or business in the United States. The determination of whether the income of a foreign corporation is effectively connected with the conduct of a trade or business in the United States requires significant management judgment, as it involves a consideration of all the facts and circumstances and the application of legal standards that are uncertain. Our position is that our foreign business operations do not generate any income that is effectively connected with a United States trade or business. We recorded a tax provision of \$3.3 million in the year ended January 31, 2002.

In the event that actual results differ from these estimates or we adjust these estimates in future periods we may need to record additional income tax expense or establish an additional valuation allowance, which could materially impact our financial position and results of operations.

*Accounts receivable reserves.* We perform ongoing credit evaluations of our customers and adjust credit limits based upon payment history and the customer's current credit worthiness, as determined by our review of their current credit information. We continuously monitor payments from our customers and maintain a provision for estimated credit losses based upon our historical experience and any specific customer collection issues that we have identified. While such credit losses have historically been within our expectations and the provisions established, we cannot guarantee that we will continue to experience the same credit loss rates that we have in the past. Since our accounts receivable are concentrated in a relatively few number of customers, a significant change in the liquidity or financial condition of any one of these customers could have a material adverse impact on the realization of our accounts receivable and our results of operations.

*Inventory reserves.* We value our inventory at the lower of the actual cost of the inventory or the current estimated market value of the inventory, cost being determined under the first-in, first-out method. We regularly review inventory quantities on hand and record a provision for excess and obsolete inventory based primarily on our estimated forecast of product demand and production requirements. Demand for our products can fluctuate significantly from period to period. A significant decrease in demand could result in an increase in the amount of excess inventory quantities on hand. In addition, our industry is characterized by rapid technological change, frequent new product development, and rapid product obsolescence that could result in an increase in the amount of obsolete inventory quantities on hand. Additionally, our estimates of future product demand may prove to be inaccurate, in which case we may have understated or overstated the provision required for excess and obsolete inventory. In the future, if our inventory is determined to be overvalued, we would be required to recognize such costs in our cost of goods sold at the time of such determination. Likewise, if our inventory is determined to be undervalued, we may have over-reported our cost of goods sold in previous periods and would be required to recognize such additional operating income at the time of sale. Therefore, although we make every effort to ensure the accuracy of our forecasts of future product demand, any significant unanticipated changes in demand or technological developments could have a significant impact on the value of our inventory and our results of operations.

*Valuation of long-lived assets, intangible assets and goodwill.* We assess the impairment of long-lived assets, intangible assets and goodwill whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. Factors we consider important which could trigger an impairment review include (i) significant underperformance relative to expected historical or projected future operating results, (ii) significant changes in the manner of our use of the acquired assets or the strategy for our overall business, (iii) significant negative industry or economic trends, (iv) a significant decline in our stock price for a sustained period and (v) a significant change in our market capitalization relative to our net book value. An impairment loss is recognized if the sum of the expected future cash flows (undiscounted and before interest) from the use of the asset is less than the net book value of the asset. The amount of the impairment loss will generally be measured as the difference between net book values of the asset and its estimated fair value. As of January 31, 2002, we have not recorded any impairment charges related to our long-lived assets, intangible assets and goodwill.

In July 2001, the FASB issued Statement of Financial Accounting Standards No. 142 ("SFAS 142"), Goodwill and Other Intangible Assets. SFAS 142 requires, among other things, a goodwill impairment test within six months of adoption and annual impairment tests thereafter. We adopted SFAS 142 in February

[Table of Contents](#)

2002. Upon adoption, we are required to perform the first step of the two-step impairment test prescribed by SFAS 142. We have not yet completed this analysis and expect to complete it within the required time frame of the first six months of fiscal 2003.

*Litigation costs.* From time to time, we are involved in legal actions arising in the ordinary course of business. There can be no assurance these actions or other third party assertions will be resolved without costly litigation, in a manner that is not adverse to our financial position, results of operations or cash flows or without requiring royalty payments in the future which may adversely impact gross margins. We are aggressively defending these litigations and believe no material adverse outcome will result. However, given uncertainties associated with any litigation, if our assessments prove to be wrong, or if additional information becomes available such that we estimate that there is a possible loss or possible range of loss associated with these contingencies then we would record the minimum estimated liability, which could materially impact our results of operations and financial position.

## Results of Operations

The following table sets forth information derived from our consolidated statements of operations expressed as a percentage of net revenue.

	Years Ended January 31,		
	2002	2001	2000
Net revenue	100.0%	100.0%	100.0%
Operating costs and expenses:			
Cost of goods sold	45.3	46.6	41.5
Research and development	32.3	24.4	17.8
Selling and marketing	13.9	15.1	12.8
General and administrative	4.6	4.3	4.2
Amortization of stock-based compensation	5.2	5.7	2.7
Amortization of goodwill and acquired intangible assets	144.8	5.6	—
Acquired in-process research and development	—	163.2	—
Total operating costs and expenses	246.1	264.9	79.0
Operating income (loss)	(146.1)	(164.9)	21.0
Interest and other income, net	3.4	3.1	0.4
Income (loss) before income taxes	(142.7)	(161.8)	21.4
Provision for income taxes	1.1	1.6	5.4
Net income (loss)	(143.8)%	(163.4)%	16.0%

## Years Ended January 31, 2002 and 2001

*Net Revenue.* Net revenue consists primarily of product revenue from sales of our semiconductor devices, and to a much lesser extent, development revenue derived from development contracts with our customers. Net revenue is gross revenue, net of accruals for estimated sales returns and allowances. Net revenue was \$288.8 million for the year ended January 31, 2002 compared to \$143.9 million for the year ended January 31, 2001. The increase in net revenue reflects a significant increase in volume shipments of our communications products during the year ended January 31, 2002, in part due to our acquisition of Galileo. The increase in net revenue also reflects the commencement of volume shipments of our System-On-Chip storage products during the year ended January 31, 2002. Revenue from communications products totaled \$124.8 million in fiscal 2002 compared to \$21.0 million in fiscal 2001. Revenue from storage products was \$164.0 million in fiscal 2002 compared to \$122.9 million in fiscal 2001. Revenue derived from development contracts increased sequentially during fiscal 2002 and 2001, but represented less than 10% of our net revenues for each year. We expect that revenue from storage products in fiscal 2003 will increase from the level of

## [Table of Contents](#)

revenue from storage products we reported in fiscal 2002 due in part to increases in shipments of our storage SOCs, which have been widely adopted by the mobile computer sector and which we expect to be adopted by the desktop computer sector in fiscal 2003. In addition, we expect growth in revenue from communications products in fiscal 2003 compared to fiscal 2002 primarily due to increases in shipments of our Gigabit Ethernet products, which we expect will continue to be adopted as the replacement of Fast Ethernet products.

*Cost of Goods Sold.* Cost of goods sold consists primarily of the costs of manufacturing, assembly and test of integrated circuit devices and related overhead costs, and compensation and associated costs relating to manufacturing support, logistics and quality assurance personnel. Gross margin, which is calculated as net revenue less cost of goods sold, as a percentage of net revenue, was 54.7% in the year ended January 31, 2002 compared to 53.4% in the year ended January 31, 2001. The increase in gross margin in fiscal 2002 compared to fiscal 2001 was primarily due to higher margins on our storage products, which resulted from improved manufacturing yields in 2002, as well as a shift in product mix to newer, higher-margin products such as our Gigabit Ethernet transceivers. Also contributing to the increase in gross margin was an increase in the amount of development revenue recognized in fiscal 2002 compared to fiscal 2001. The costs associated with contracted development work are included in research and development expense. Our gross margins are primarily driven by product mix; however, our margins may also fluctuate in future periods due to, among other things, increased pricing pressures from our customers and competitors and changes in the amount of development revenue recognized.

*Research and Development.* Research and development expense consists primarily of compensation and associated costs relating to development personnel, prototype costs, depreciation and amortization expense, and allocated occupancy costs for these operations. Research and development expense was \$93.4 million, or 32.3% of net revenue, for the year ended January 31, 2002 compared to \$35.2 million, or 24.4% of net revenue, for the year ended January 31, 2001. The increase in research and development expense in absolute dollars in fiscal 2002 compared to fiscal 2001 was primarily due to the hiring of additional development personnel and the addition of Galileo's development personnel which resulted in an increase in salary and related costs of \$32.1 million, increased costs of \$4.7 million for prototype and related product tape-out costs for new product initiatives, increased depreciation and amortization expense of \$8.2 million arising from purchases of property, equipment and technology licenses and the additional depreciation expense recorded on Galileo's property and equipment, and increased facility and other allocated expenses of \$5.9 million related to our expanding operations. We expect that research and development expense will increase in absolute dollars in future periods as we develop new products, migrate to lower process geometries, expand into new markets and technologies, and hire additional personnel.

*Selling and Marketing.* Selling and marketing expense consists primarily of compensation and associated costs relating to sales and marketing personnel, sales commissions, promotional and other marketing expenses, and allocated occupancy costs for these operations. Selling and marketing expense was \$40.2 million, or 13.9% of net revenue, for the year ended January 31, 2002 compared to \$21.7 million, or 15.1% of net revenue, for the year ended January 31, 2001. The increase in selling and marketing expense in absolute dollars in fiscal 2002 compared to fiscal 2001 was primarily due to the hiring of additional sales and marketing personnel and the addition of Galileo's sales and marketing personnel which resulted in an increase in salary and related costs of \$9.7 million, increased sales commissions of \$2.4 million, and increased facility and other allocated expenses of \$3.5 million related to our expanding operations. We expect that selling and marketing expense will increase in absolute dollars in future periods as we hire additional sales and marketing personnel, expand our sales and marketing efforts, particularly in the communications market, and pay increased sales commissions.

*General and Administrative.* General and administrative expense consists primarily of compensation and associated costs relating to administrative personnel, fees for professional services and allocated occupancy costs for these operations. General and administrative expense was \$13.2 million, or 4.6% of net revenue, for the year ended January 31, 2002 compared to \$6.2 million, or 4.3% of net revenue, for the year ended January 31, 2001. The increase in general and administrative expense in absolute dollars in fiscal 2002 compared to fiscal 2001 was primarily due to the hiring of additional administrative personnel and the addition of Galileo's administrative personnel which resulted in an increase in salary and related costs of \$3.3 million

## [Table of Contents](#)

and increased legal and other professional fees of \$2.0 million due to our expanding operations and attorney fees associated with our on-going legal proceedings. We expect that general and administrative expense will increase in absolute dollars in future periods as we hire additional administrative personnel and incur increased legal and other costs associated with our expanding operations and ongoing legal proceedings.

*Amortization of Stock-Based Compensation.* In connection with the grant of stock options to our employees and directors prior to our initial public offering of common stock and in connection with the assumption of stock options as a result of our acquisition of Galileo, we have recorded deferred stock-based compensation. Deferred stock-based compensation is being amortized using an accelerated method over the remaining option vesting periods. Amortization of stock-based compensation was \$15.0 million, or 5.2% of net revenue, for the year ended January 31, 2002 compared to \$8.3 million, or 5.7% of net revenue, for the year ended January 31, 2001. The increase in amortization expense in absolute dollars in fiscal 2002 compared to fiscal 2001 primarily resulted from additional amounts of deferred stock-based compensation being recorded in the fourth quarter of fiscal 2001 due to the assumption of stock options in connection with our acquisition of Galileo.

*Amortization of Goodwill and Acquired Intangible Assets.* In connection with our acquisition of Galileo in the fourth quarter of fiscal 2001, we recorded \$1.7 billion of goodwill and \$434.7 million of acquired intangible assets. Goodwill is amortized over its estimated economic life of five years, and acquired intangible assets are amortized over their estimated economic lives of five to ten years. Goodwill and acquired intangible asset amortization expense was \$418.0 million, or 144.8% of net revenue, for the year ended January 31, 2002 compared to \$8.0 million, or 5.6% of net revenue, for the year ended January 31, 2001. The increase in goodwill and acquired intangible asset amortization expense in absolute dollars in fiscal 2002 compared to fiscal 2001 was due to goodwill and acquired intangible assets being amortized for the full year in fiscal 2002 compared to only seven days of amortization in fiscal 2001.

In July 2001, the FASB issued Statement of Financial Accounting Standards No. 142 ("SFAS 142"), Goodwill and Other Intangible Assets, which is effective for fiscal years beginning after December 15, 2001. SFAS 142 requires, among other things, the discontinuance of goodwill amortization, the reclassification of certain existing recognized intangibles into goodwill, reassessment of the useful lives of existing recognized intangibles, reclassification of certain intangibles out of previously reported goodwill and the testing for impairment of existing goodwill and other intangibles. We adopted SFAS 142 in February 2002. As a result of the adoption, beginning in the first quarter of fiscal 2003 we have discontinued the amortization of goodwill. Goodwill amortization expense was \$334.8 million for the year ended January 31, 2002. We also reclassified the carrying value of the acquired workforce of \$10.4 million into goodwill because this intangible asset did not arise from contractual or other legal rights and cannot be separated from the acquired entity and sold, transferred, licensed, rented or exchanged. Amortization of the acquired workforce was \$2.1 million for the year ended January 31, 2002. Also as part of the adoption of SFAS 142, we reassessed the useful lives of our two remaining acquisition-related intangible assets, developed technology and trade name, and determined that the useful life of the Galileo trade name should be five years from the date of acquisition instead of its current estimated useful life of ten years. This change in useful life, which was based on our expected future use of the Galileo trade name in our selling and marketing activities as well as its expected contribution to future cash flows, will increase our trade name amortization expense to \$7.5 million per year beginning in fiscal 2003 compared to the \$3.3 million we recorded in fiscal 2002. Upon adoption, we are required to perform the first step of the two-step goodwill impairment test prescribed by SFAS 142. We have not yet completed this analysis and expect to complete it within the required time frame of the first six months of fiscal 2003.

*In-Process Research and Development.* In connection with our acquisition of Galileo in the fourth quarter of fiscal 2001, we purchased in-process research and development, or IPRD, of approximately \$234.9 million, which represented approximately 9.4% of the total purchase price. As of the acquisition date, the IPRD efforts had not yet reached technological feasibility, and the IPRD had no alternative future uses. Accordingly, the value of the purchased IPRD was expensed on the date of acquisition.

The fair values of Galileo's IPRD, as well as their developed technologies, were determined using the income approach, which discounts expected future cash flows to present value. The discount rates used in the

## [Table of Contents](#)

present value calculations were derived from a weighted-average cost of capital analysis and venture capital surveys, adjusted upward to reflect additional risks inherent in the development life cycle. A discount rate of 16.5% was used for developed technology, and rates between 21.5% and 34.0% were used for IPRD, depending on the stage of completion of each technology. As of January 31, 2002, the majority of these IPRD projects have been fully developed and were completed within our original cost estimates. The estimated cost to complete the development of the one remaining project is less than \$1 million.

*Interest and Other Income, Net.* Interest and other income, net consists primarily of interest earned on cash, cash equivalent and short-term investment balances and realized gains from the sale of marketable securities, offset by interest paid on capital lease obligations. Interest and other income, net was \$10.0 million for the year ended January 31, 2002 compared to \$4.6 million for the year ended January 31, 2001. The increase in interest and other income, net in fiscal 2002 compared to fiscal 2001 was primarily due to interest being earned on higher invested cash balances, as well as realized gains of \$1.2 million on the sale of marketable securities in fiscal 2002. The net proceeds from our initial public offering of common stock in June 2000, as well as the net cash received as a result of our acquisition of Galileo in January 2001, contributed to this increase in invested cash balances.

*Provision for Income Taxes.* Our effective tax rate was (1)% for each of the years ended January 31, 2002 and 2001. Our effective rate for fiscal 2002 was affected by stock-based compensation expense as well as non-deductible expenses relating to our acquisition of Galileo in the fourth quarter of fiscal 2001, which was recorded using the purchase method of accounting. Excluding the effect of stock-based compensation expense and non-deductible, acquisition-related expenses, our effective tax rate for fiscal 2002 was 15%. Excluding the effect of non-deductible, acquisition-related expenses, our effective tax rate for fiscal 2001 was 23%. Our effective tax rate has decreased to 15% in fiscal 2002 from 23% in fiscal 2001 as a result of our acquisition of Galileo in the fourth quarter of fiscal 2001. A substantial majority of Galileo's pretax income is generated in Israel, where Galileo's operations have Approved Enterprise Status. This status provides us with a tax holiday on undistributed income generated in specified regions within Israel.

### **Years Ended January 31, 2001 and 2000**

*Net Revenue.* Net revenue consists primarily of product revenue from sales of our semiconductor devices, and to a much lesser extent, development revenue derived from development contracts with our customers. Net revenue is gross revenue, net of accruals for estimated sales returns and allowances. Net revenue increased to \$143.9 million in fiscal 2001 from \$81.4 million in fiscal 2000. The increase in revenue primarily reflects increased volume shipments of storage products and commencement of volume shipments of communications products, which totaled \$21.0 million in fiscal 2001. Although average selling prices for storage products declined by approximately 8.8% from fiscal 2000 to fiscal 2001, the volume of units shipped increased to approximately 41.1 million units in 2001 from approximately 24.9 million units in 2000. The decrease in average selling prices was primarily due to a product mix change caused by an increase in preamplifier products shipped as a percentage of total storage products shipped, which have a lower average selling price than our read channel products, and to a lesser extent, a decrease in average selling prices for our read channel products.

*Cost of Goods Sold.* Cost of goods sold consists primarily of the costs of manufacturing, assembly and test of integrated circuit devices and related overhead costs, and compensation and associated costs related to manufacturing support, logistics and quality assurance personnel. Gross profit, which equals net revenue less cost of goods sold, as a percentage of net revenue, decreased to 53.4% in fiscal 2001 from 58.5% in fiscal 2000. The decrease in gross profit was primarily due to a decrease in average selling prices for storage products, an increase in average cost per unit for read channel products due to a product mix change, and an increase in preamplifier product revenues as a percentage of total revenues, which contribute a lower gross profit than both read channel and communications products.

*Research and Development.* Research and development expense consists primarily of compensation and associated costs relating to development personnel, prototype costs, depreciation expenses and allocated occupancy costs for these operations. Research and development expense was \$35.2 million, or 24.4% of net

## [Table of Contents](#)

revenue, in fiscal 2001 and \$14.5 million, or 17.8% of net revenue, in fiscal 2000. The increase in research and development expense in absolute dollars was primarily due to increases of approximately \$8.4 million for the hiring of additional development personnel and a resulting increase in salary and related costs, approximately \$5.7 million of increased spending for prototype and related product tape-out costs for new product initiatives, approximately \$726,000 for increased depreciation expense due to significant purchases of computer aided design software tools, and approximately \$2.8 million for increased facility and other allocable expenses related to our expanding operations.

*Selling and Marketing.* Selling and marketing expense consists primarily of compensation and associated costs relating to selling and marketing personnel, sales commissions to independent sales representatives, promotional and other marketing expenses, and allocated occupancy costs for these operations. Selling and marketing expense was \$21.7 million, or 15.1% of net revenue, in fiscal 2001 and \$10.4 million, or 12.8% of net revenue, in fiscal 2000. The increase in selling and marketing expense in absolute dollars was primarily due to the hiring of additional personnel and a resulting increase in salary and related costs of approximately \$5.1 million, increased sales commissions of approximately \$1.6 million, increased costs of approximately \$1.6 million related to expanding our sales and marketing activities as we broadened our communications customer and product base, and increased facility and other allocable expenses of approximately \$1.3 million related to our expanding operations.

*General and Administrative.* General and administrative expense consists primarily of compensation and associated costs relating to administrative personnel, professional fees and allocated occupancy costs for these operations. General and administrative expense was \$6.2 million, or 4.3% of net revenue, in fiscal 2001 and \$3.4 million, or 4.2% of net revenue, in fiscal 2000. The increase in general and administrative expense in absolute dollars was primarily due to the hiring of additional personnel and a resulting increase in salary and related costs of approximately \$2.2 million.

*Amortization of Stock-Based Compensation.* In connection with the grant of stock options to our employees and directors, we recorded deferred stock-based compensation of approximately \$14.1 million through fiscal 2000 and recorded an additional \$25.6 million in fiscal 2001, \$19.8 million of which related to stock options assumed in connection with our acquisition of Galileo on January 21, 2001. Deferred stock-based compensation is being amortized using an accelerated method over the remaining option vesting periods. Amortization of stock-based compensation expense was \$8.3 million, or 5.7% of net revenue, in fiscal 2001 and \$2.2 million, or 2.7% of net revenue, in fiscal 2000. The increase in amortization expense was due to the additional amounts of deferred stock-based compensation being recorded in fiscal 2001 and 2000.

*Amortization of Goodwill and Acquired Intangible Assets.* In connection with our acquisition of Galileo in the fourth quarter of fiscal 2001, we recorded approximately \$1.7 billion of goodwill and \$434.7 million of acquired intangible assets. Goodwill is amortized over its estimated economic life of five years, and acquired intangible assets are amortized over their estimated economic lives of five to ten years. Goodwill and acquired intangible asset amortization expense was approximately \$8.0 million, or 5.6% of net revenue, in fiscal 2001.

*In-Process Research and Development.* In connection with our acquisition of Galileo in the fourth quarter of fiscal 2001, we purchased in-process research and development, or IPRD, of approximately \$234.9 million, which represented approximately 9.4% of the total purchase price. As of the acquisition date, the IPRD efforts had not yet reached technological feasibility, and the IPRD had no alternative future uses. Accordingly, the value of the purchased IPRD was expensed on the date of acquisition.

The fair values of Galileo's IPRD, as well as their developed technologies, were determined using the income approach, which discounts expected future cash flows to present value. The discount rates used in the present value calculations were derived from a weighted-average cost of capital analysis and venture capital surveys, adjusted upward to reflect additional risks inherent in the development life cycle. A discount rate of 16.5% was used for developed technology, and rates between 21.5% and 34.0% were used for IPRD, depending on the stage of completion of each technology. As of the date of acquisition, the estimated cost to complete the technology under development was approximately \$21.0 million.

## [Table of Contents](#)

*Interest and Other Income, Net.* Interest and other income, net consists primarily of interest earned on cash, cash equivalents and short-term investments, offset by interest paid on notes payable and capital lease obligations. Interest and other income, net was \$4.6 million in fiscal 2001 and \$330,000 in fiscal 2000. The increase in interest and other income, net was due to interest being earned on higher invested cash balances in fiscal 2001. The net proceeds from our initial public offering of common stock, which were received on June 30, 2000, contributed to the significant increase in interest and other income, net in fiscal 2001.

*Provision for Income Taxes.* Our effective tax rate was (1)% for fiscal 2001 compared to 25% for fiscal 2000. Our effective rate for fiscal 2001 was affected by non-deductible expenses relating to our acquisition of Galileo in the fourth quarter of fiscal 2001, which was recorded using the purchase method of accounting. Excluding the effect of non-deductible, acquisition-related expenses, our effective tax rate for fiscal 2001 was 23%.

### **Liquidity and Capital Resources**

Our principal source of liquidity as of January 31, 2002 consisted of \$250.2 million of cash, cash equivalents and short-term investments. We raised net proceeds of \$94.0 million through our initial public offering in June 2000. In addition, we received \$70.0 million of cash and cash equivalents and \$39.9 million of short-term investments, before acquisition costs, as a result of our acquisition of Galileo in the fourth quarter of fiscal 2001.

Net cash provided by operating activities was \$50.0 million for the year ended January 31, 2002 compared to \$12.2 million for the year ended January 31, 2001 and \$12.6 million for the year ended January 31, 2000. The cash inflow from operations in fiscal 2002 was primarily a result of our generation of income during the period (excluding the non-cash impact of depreciation and amortization expenses), a decrease in inventory and increases in accounts payable, accrued liabilities, accrued employee compensation and income taxes payable, partially offset by increases in accounts receivable, deferred income taxes, prepaid expenses and other assets. The cash inflow from operations in fiscal 2001 and 2000 was primarily due to our generation of income during the periods (excluding the non-cash impact of depreciation and amortization expenses in both periods and the impact of in-process research and development in fiscal 2001) and increases in accounts payable, accrued liabilities and income taxes payable, partially offset by increases in accounts receivable, inventory, prepaid expenses and other assets. Due to the nature of our business, we experience working capital needs for accounts receivable and inventory. We typically bill customers on an open account basis with net 30-day payment terms. If our sales levels were to increase, it is likely that our levels of accounts receivable would also increase. Our levels of accounts receivable would also increase if customers delayed their payments. Additionally, in order to maintain an adequate supply of product for our customers, we must carry a certain level of inventory. Our inventory level may vary based primarily upon orders received from our customers and our forecast of demand for these products. Other considerations in determining inventory levels may include the product life cycle stage of our products and competitive situations in the marketplace. Such considerations are balanced against risk of obsolescence or potentially excess inventory levels.

Net cash used in investing activities was \$151.6 million for the year ended January 31, 2002 compared to net cash provided by investing activities of \$56.4 million for the year ended January 31, 2001 and net cash used in investing activities of \$6.8 million for the year ended January 31, 2000. The net cash used in investing activities in fiscal 2002 was primarily due to purchases of short-term investments of \$118.7 million, the payment of \$29.5 million of accrued acquisition costs relating to our acquisition of Galileo, and purchases of property, equipment and technology licenses of \$28.6 million, partially offset by the proceeds from maturities of short-term investments of \$27.8 million. The net cash provided by investing activities in fiscal 2001 was attributable to the net cash received as a result of our acquisition of Galileo of \$70.0 million, partially offset by purchases of property and equipment of \$12.2 million. The net cash used in investing activities in fiscal 2000 resulted solely from purchases of property and equipment.

Net cash provided by financing activities was \$31.9 million for the year ended January 31, 2002 compared to \$99.0 million for the year ended January 31, 2001 and \$5.3 million for the year ended January 31, 2000. In fiscal 2002, net cash provided by financing activities was attributable to proceeds from the issuance of common

## [Table of Contents](#)

stock under our stock option plans and our employee stock purchase plan. In fiscal 2001, net cash provided by financing activities resulted from the proceeds of our initial public offering of common stock in June 2000 as well as proceeds from the exercise of stock options. In fiscal 2000, net cash provided by financing activities was primarily attributable to proceeds from the issuance of convertible preferred stock and the exercise of stock options, partially offset by the repayment of notes payable and capital lease obligations.

Our relationships with the foundries we utilize allow us to cancel all outstanding purchase orders, provided we pay the foundries for all expenses they have incurred in connection with our purchase orders through the date of cancellation. As of January 31, 2002, foundries had incurred approximately \$18.8 million of manufacturing expenses on our outstanding purchase orders.

In October 2001, we entered into a lease agreement with Yahoo! Inc. to lease a building in California consisting of approximately 213,000 square feet. The lease began on January 1, 2002 and continues through March 16, 2006. Total rent payments over the term of the lease will be approximately \$19.4 million. During the first quarter of fiscal 2003, we intend to consolidate our three existing facilities in California into this new building. The lease on one of our existing facilities expired in February 2002, but we have ongoing, non-cancelable leases for the two other facilities. We are currently attempting to secure subtenants for the remainder of our lease terms for these two facilities. If we are not successful in subleasing these two facilities at rates that will cover our lease cost, we will be required to record a period charge for the difference between the total actual or estimated sublease income and our lease cost. In addition, we will continue to be required to pay the full amount of our contracted lease payments while the facilities are vacant or while they are subleased at lesser rates. The future minimum lease payments for the two unoccupied facilities total \$15.7 million.

We intend to fund our capital requirements, as well as our liquidity needs, with existing cash, cash equivalent and short-term investment balances as well as cash generated by operations. However, our capital requirements will depend on many factors, including our rate of sales growth, market acceptance of our products, costs of securing access to adequate manufacturing capacity, the timing and extent of research and development projects and increases in operating expenses, which are all subject to uncertainty. To the extent that our existing cash, cash equivalent and investment balances and cash generated by operations are insufficient to fund our future activities, we may need to raise additional funds through public or private debt or equity financing. Although we currently are not a party to any agreement or letter of intent with respect to a potential acquisition or strategic arrangement, we may enter into acquisitions or strategic arrangements in the future, which could also require us to seek additional debt or equity financing. Additional funds may not be available on terms favorable to us or at all.

The following table summarizes our contractual obligations as of January 31, 2002 and the effect such obligations are expected to have on our liquidity and cash flow in future periods (in thousands):

	Payments Due by Period			Total
	Less than 1 Year	1 - 3 Years	After 3 Years	
Contractual obligations:				
Operating leases	\$ 8,119	\$18,935	\$15,508	\$42,562
Capital lease obligations	1,550	4,500	6,800	12,850
Purchase commitments to foundries	18,797	—	—	18,797
Total contractual cash obligations	\$28,466	\$23,435	\$22,308	\$74,209

## Inflation

The impact of inflation on our business has not been material for fiscal 2002, 2001 and 2000.

## Recent Accounting Pronouncements

In July 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 141 ("SFAS 141"), Business Combinations. SFAS 141 requires the purchase

## [Table of Contents](#)

method of accounting for business combinations initiated after June 30, 2001 and eliminates the pooling-of-interests method. We adopted SFAS 141 on July 1, 2001, and the adoption did not have a significant impact on our financial position or results of operations.

In July 2001, the FASB issued Statement of Financial Accounting Standards No. 142 ("SFAS 142"), Goodwill and Other Intangible Assets, which is effective for fiscal years beginning after December 15, 2001. SFAS 142 requires, among other things, the discontinuance of goodwill amortization, the reclassification of certain existing recognized intangibles into goodwill, reassessment of the useful lives of existing recognized intangibles, reclassification of certain intangibles out of previously reported goodwill and the testing for impairment of existing goodwill and other intangibles. We adopted SFAS 142 in February 2002. As a result of the adoption, beginning with the first quarter of fiscal 2003 we have discontinued the amortization of goodwill. Goodwill amortization expense was \$334.8 million for the year ended January 31, 2002. We also reclassified the carrying value of the acquired workforce of \$10.4 million into goodwill because this intangible asset did not arise from contractual or other legal rights and cannot be separated from the acquired entity and sold, transferred, licensed, rented or exchanged. Amortization of the acquired workforce was \$2.1 million for the year ended January 31, 2002. Also as part of the adoption of SFAS 142, we reassessed the useful lives of our two remaining acquisition-related intangible assets, developed technology and trade name, and determined that the useful life of the Galileo trade name should be five years from the date of acquisition instead of its current estimated useful life of ten years. This change in useful life, which was based on our expected future use of the Galileo trade name in our selling and marketing activities as well as its expected contribution to future cash flows, will increase our trade name amortization expense to \$7.5 million per year beginning in fiscal 2003 compared to the \$3.3 million we recorded in fiscal 2002. Upon adoption, we are required to perform the first step of the two-step goodwill impairment test prescribed by SFAS 142. We have not yet completed this analysis and expect to complete it within the required time frame of the first six months of fiscal 2003.

In October 2001, the FASB issued Statement of Financial Accounting Standards No. 144 ("SFAS 144"), Accounting for the Impairment or Disposal of Long-Lived Assets, which is effective for fiscal years beginning after December 15, 2001. SFAS 144 supercedes SFAS 121, Accounting for the Impairment of Long-lived Assets and Assets to be Disposed Of, and certain provisions of Accounting Principles Board Opinion No. 30, Reporting the Results of Operations -Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions. SFAS 144 requires that long-lived assets to be disposed of by sale, including discontinued operations, be measured at the lower of carrying amount or fair value less cost to sell, whether reported in continuing operations or in discontinued operations. SFAS 144 also broadens the reporting requirements of discontinued operations to include all components of an entity that have operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the rest of the entity. We adopted SFAS 144 on February 1, 2002, and the adoption did not have a significant impact on our financial position or results of operations.

In November 2001, the FASB Emerging Issues Task Force (EITF) reached a consensus on EITF Issue 01-09, Accounting for Consideration Given by a Vendor to a Customer or a Reseller of the Vendor's Products, which is a codification of EITF 00-14, 00-22 and 00-25. This issue presumes that consideration from a vendor to a customer or reseller of the vendor's products to be a reduction of the selling prices of the vendor's products and, therefore, should be characterized as a reduction of revenue when recognized in the vendor's income statement and could lead to negative revenue under certain circumstances. Revenue reduction is required unless consideration relates to a separate identifiable benefit and the benefit's fair value can be established. This issue should be applied no later than in annual or interim financial statements for periods beginning after December 15, 2001, which is our first quarter ended May 4, 2002. Upon adoption we are required to reclassify all prior period amounts to conform to the current period presentation. We do not believe the adoption of this standard will have a material impact on our reported results.

### **Related Party Transaction**

In October 2001, we entered into a lease agreement with a privately-held design technology firm for certain computer-aided design software. We selected this product after an evaluation of competitive products

## [Table of Contents](#)

on the strength of its merits. One of the officers of the design technology firm is the brother of an officer and director of Marvell and is also a shareholder of Marvell. The design technology firm was acquired by Cadence Design Systems in December 2001. Total principal and interest payments over the 6-year term of the lease will be \$13.2 million. The remaining lease payments as of January 31, 2002 are included in the capital lease commitment table in Note 10 to the Consolidated Financial Statements.

### **Additional Factors That May Affect Future Results**

In addition to the factors discussed in the "Overview" and "Liquidity and Capital Resources" sections of this "Management's Discussion and Analysis of Financial Condition and Results of Operations," the following additional factors may affect our future results. Many of these factors are beyond our control, including business cycles and seasonal trends of the computing, semiconductor and related industries.

***We have experienced a recent slowdown in the worldwide economy, which has negatively affected our revenues and results of operations in fiscal 2002. If economic conditions worsen, our revenues and results of operations in fiscal 2003 and beyond will be materially and adversely affected.***

Over the last year there has been a slowdown in worldwide economies, including the United States, that has resulted in delays of new orders for our products as well as reschedules of existing orders. This slowdown has been brought about by a number of factors, including concerns about inflation, decreased consumer confidence and reports of reduced corporate profits. If economic conditions worsen, our revenues and results of operations in fiscal 2003 and beyond will be materially and adversely affected.

***We are dependent upon the hard disk drive industry, which is highly cyclical and experiences rapid technological change.***

Sales to customers in the hard disk drive industry represented approximately 57%, 85% and 100% of our net revenue in fiscal 2002, 2001 and 2000, respectively. The hard disk drive industry is intensely competitive, and the technology changes rapidly. As a result, this industry is highly cyclical, with periods of increased demand and rapid growth followed by periods of oversupply and subsequent contraction. These cycles may affect us as our customers are suppliers to this industry. Hard disk drive manufacturers tend to order more components than they may need during growth periods, and sharply reduce orders for components during periods of contraction. In addition, advances in existing technologies and the introduction of new technologies may result in lower demand for disk drive storage devices, thereby reducing demand for our products.

Rapid technological changes in the hard disk drive industry often result in significant and rapid shifts in market share among the industry's participants. If the hard disk drive manufacturers supplied by our customers do not retain or increase market share, our sales may decrease.

***Our Galileo subsidiary is incorporated under the laws of, and its principal offices are located in, the State of Israel and therefore its business operations may be harmed by adverse political, economic and military conditions affecting Israel.***

Galileo is both incorporated under the laws of and has its principal offices in the State of Israel. In addition, Galileo maintains its research and development operations in Israel. Thus, Galileo is directly influenced by the political, economic and military conditions affecting Israel. Major hostilities involving or within Israel could disrupt Galileo's research and development and other business operations. For example, continued hostilities between Israel and the Palestinian Authority in recent months caused substantial political unrest, which could lead to a potential economic downturn in Israel. Also, the interruption or curtailment of trade between Israel and its present trading partners or a significant downturn in the economic or financial condition of Israel could reduce Galileo's sales and its financial results. A number of countries restrict business with Israel or Israeli companies, and if the countries in which Galileo's customers or potential customers conduct their businesses adopt restrictive laws or policies toward Israel or Israeli businesses this could harm Galileo's ability to retain or increase its sales.

***We depend on a small number of large customers for a significant portion of our sales. The loss of, or a significant reduction or cancellation in sales to, any key customer would significantly reduce our revenues.***

In fiscal 2002, approximately 55% of our net revenue was derived from sales to four customers, each of whom individually accounted for 10% or more of our net revenue during this period. Of these customers, Samsung accounted for 17%, Toshiba accounted for 13%, Seagate accounted for 13% and Accton accounted for 12%. Sales to our largest customers have fluctuated significantly from period to period primarily due to the timing and number of design wins with each customer, as well as the continued diversification of our customer base as we expand into new markets, and will likely continue to fluctuate dramatically in the future. The majority of sales to Accton represented designs won by us at companies such as Enterasys Networks, 3Com and Alcatel, which are designed and manufactured in Taiwan under ODM contracts. The loss of any of our largest customers, a significant reduction in sales we make to them, or any problems we encounter collecting amounts from them would likely seriously harm our financial condition and results of operations. Our operating results in the foreseeable future will continue to depend on sales to a relatively small number of customers, as well as the ability of these customers to sell products that incorporate our products. In the future, these customers may decide not to purchase our products at all, to purchase fewer products than they did in the past, or to alter their purchasing patterns in some other way, particularly because:

- we do not have any long-term purchase arrangements or contracts with these or any of our other customers or exclusive arrangements with any customers;
- substantially all of our sales are made on a purchase order basis, which permits our customers to cancel, change or delay product purchase commitments with little or no notice to us and without penalty;
- our customers purchase integrated circuits from our competitors; and
- our customers may discontinue sales in the markets for which they purchase our products.

***If we are unable to develop new and enhanced products that achieve market acceptance in a timely manner, our operating results and competitive position will be harmed.***

Our future success will depend on our ability, in a timely and cost-effective manner, to develop new products for the broadband communications market and to introduce enhancements to our products for the storage market. We must also achieve market acceptance for these products and enhancements. If we do not successfully develop and achieve market acceptance for new and enhanced products, our ability to maintain or increase revenues will suffer. The development of our products is highly complex. We occasionally have experienced delays in completing the development and introduction of new products and product enhancements, and we could experience delays in the future. In particular, we have a limited history in developing products for the broadband communications market and may encounter technical difficulties in developing wireless LAN or other products for this market that could prevent or delay their successful introduction. Unanticipated problems in developing broadband communications products could also divert substantial engineering resources, which may impair our ability to develop new products and enhancements for the storage market, and could substantially increase our costs. Even if the new and enhanced products are introduced to the market, we may not be able to achieve market acceptance of these products in a timely manner.

Successful product development and market acceptance of our products depends on a number of factors, including:

- timely and cost-effective completion and introduction of new product designs;
- adoption of our products by customers that are among the first to adopt new technologies and by customers perceived to be market leaders;
- timely qualification and certification of our products for use in our customers' products;

## [Table of Contents](#)

- the level of acceptance of our products by existing and potential customers;
- cost and availability of foundry, assembly and testing capacity;
- availability, price, performance, power, use and size of our products and competing products and technologies;
- our customer service and support capabilities and responsiveness;
- successful development of our relationships with existing and potential customers and strategic partners; and
- our ability to predict and respond to changes in technology, industry standards or end-user preferences.

### ***Our acquisition of Galileo and any future acquisitions could harm our operating results and share price.***

We expect to continue to make acquisitions of, and investments in, businesses that offer complementary products, services and technologies, augment our market segment coverage, or enhance our technological capabilities. These acquisitions could materially adversely affect our operating results as a result of possible concurrent issuances of dilutive equity securities. In addition, the purchase price of such acquired businesses may exceed the current fair values of the net tangible assets of the acquired businesses. As a result, we would be required to record material amounts of goodwill and other intangible assets, which could result in significant impairment charges and amortization expense in future periods. These charges, in addition to the results of operations of such acquired businesses, could have a material adverse effect on our business, financial condition and results of operations. We cannot forecast the number, timing or size of future acquisitions, or the effect that any such acquisitions might have on our operating or financial results.

We acquired Galileo Technology Ltd. on January 21, 2001. We accounted for this acquisition using the purchase method of accounting, and the results of Galileo's operations are included in our consolidated financial statements from the date of acquisition. The excess of cost over the fair value of the net tangible assets acquired from our acquisition of Galileo has been recorded as goodwill, other intangible assets and deferred stock-based compensation. The acquisition of Galileo resulted in goodwill of approximately \$1.7 billion, other intangible assets of approximately \$434.7 million and deferred stock-based compensation of approximately \$19.8 million. Prior to the adoption of SFAS 142, goodwill was being amortized over its estimated economic life of five years and other intangible assets were being amortized over their estimated economic lives of between five and ten years. Deferred stock-based compensation is being amortized over the remaining option vesting periods of no more than four years. Upon adoption of SFAS 142, goodwill and the acquired workforce are no longer amortized, but are instead subject to annual impairment reviews. Also upon adoption of SFAS 142, the estimated useful life of the Galileo trade name was changed from ten years to five years. After the adoption of SFAS 142, we will continue to record significant amounts of amortization expense over the estimated economic lives of our intangible assets and over the remaining option vesting periods, which will have a significant negative impact on our operating results and could cause our stock price to decline.

Under generally accepted accounting principles, we are required to review our intangible assets for impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. In addition, we are required to review our goodwill and indefinite-lived intangible assets on an annual basis. Over the last year, there has been a slowdown in worldwide economies, including the United States, which has affected our business. End customers for our products have slowed their purchases of next-generation technology and have delayed or rescheduled existing orders for products that incorporate our technology. As part of the process of adopting SFAS 142, we are required to perform an impairment review of our goodwill. If the economic downtrend continues or if other presently unforeseen events or changes in circumstances arise which indicate that the carrying value of our goodwill or other intangible assets may not be recoverable, we will be required to perform impairment reviews of these assets, which have carrying values of approximately \$1.7 billion as of January 31, 2002. An impairment review could result in a write-down of these assets to their fair values. In light of the large carrying value associated with our goodwill and intangible assets, any write-down of these assets may result in a significant charge to our statement of operations in the period any impairment is determined and could cause our stock price to decline.

***We are a relatively small company with limited resources compared to some of our current and potential competitors, and we may not be able to compete effectively and increase or maintain revenue and market share.***

We may not be able to compete successfully against current or potential competitors. If we do not compete successfully, our market share and revenues may not increase or may decline. In addition, most of our current and potential competitors have longer operating histories, significantly greater resources and name recognition and a larger base of customers than us. As a result, these competitors may have greater credibility with our existing and potential customers. Moreover, our competitors may foresee the course of market developments more accurately than us. They also may be able to adopt more aggressive pricing policies and devote greater resources to the development, promotion and sale of their products than us, which would allow them to respond more quickly than us to new or emerging technologies or changes in customer requirements. In addition, new competitors or alliances among existing competitors could emerge. We expect to face competition in the future from our current competitors, other manufacturers and designers of integrated circuits, and innovative start-up integrated circuit design companies. Many of our customers are also large, established integrated circuit suppliers. Our sales to and support of such customers may enable them to become a source of competition to us, despite our efforts to protect our intellectual property rights.

In the broadband communications market, we face competition from a number of additional competitors who have a longer history of serving that market. Many of these competitors have more-established reputations in that market and longer-standing relationships with the customers to whom we sell our products, which could prevent us from competing successfully. Competition could increase pressure on us to lower our prices and lower our margins.

***Due to our limited operating history, we may have difficulty in accurately predicting our future sales and appropriately budgeting for our expenses, and we may not be able to maintain our existing growth rate.***

Our limited operating experience, combined with the rapidly changing nature of the markets in which we sell our products, limits our ability to accurately forecast quarterly and annual sales. Additionally, because many of our expenses are fixed in the short term or incurred in advance of anticipated sales, we may not be able to decrease our expenses in a timely manner to offset any shortfall of sales. We are currently expanding our staffing and increasing our expense levels in anticipation of future sales growth. If our sales do not increase as anticipated, significant losses could result due to our higher expense levels.

Although we have experienced sales and earnings growth in prior quarterly and annual periods, we may not be able to sustain these growth rates, particularly in the period of economic slowdown we are currently experiencing. Accordingly, you should not rely on the results of any prior quarterly or annual periods as an indication of our future performance.

***Because we do not have long-term commitments from our customers, we must estimate customer demand, and errors in our estimates can have negative effects on our inventory levels, sales and operating results.***

Our sales are made on the basis of individual purchase orders rather than long-term purchase commitments. In addition, our customers may cancel or defer purchase orders. We have historically placed firm orders for products with our suppliers up to 16 weeks prior to the anticipated delivery date and typically prior to receiving an order for the product. Therefore, our order volumes are based on our forecasts of demand from our customers. This process requires us to make multiple demand forecast assumptions, each of which may introduce error into our estimates. If we overestimate customer demand, we may allocate resources to manufacturing products that we may not be able to sell when we expect or at all. As a result, we would have excess inventory, which would harm our financial results. Conversely, if we underestimate customer demand or if insufficient manufacturing capacity is available, we would forego revenue opportunities, lose market share and damage our customer relationships. On occasion, we have been unable to adequately respond to unexpected increases in customer purchase orders, and therefore, were unable to benefit from this increased demand.

***We rely on independent foundries and subcontractors for the manufacture, assembly and testing of our integrated circuit products, and the failure of any of these third-party vendors to deliver products or otherwise perform as requested could damage our relationships with our customers, decrease our sales and limit our growth.***

We do not have our own manufacturing or assembly facilities and have very limited testing facilities. Therefore, we must rely on third-party vendors to manufacture, assemble and test the products we design. We currently rely on TSMC to produce substantially all of our integrated circuit products. We also currently rely on TSMC and other third-party assembly and test subcontractors to assemble, package and test our products. If these vendors do not provide us with high quality products and services in a timely manner, or if one or more of these vendors terminates its relationship with us, we may be unable to obtain satisfactory replacements to fulfill customer orders on a timely basis, our relationships with our customers could suffer, our sales could decrease and our growth could be limited. Other significant risks associated with relying on these third-party vendors include:

- our customers or their customers may fail to approve or delay approving our selected supplier;
- we have reduced control over product cost, delivery schedules and product quality;
- the warranties on wafers or products supplied to us are limited; and
- we face increased exposure to potential misappropriation of our intellectual property.

We currently do not have long-term supply contracts with any of our third-party vendors. Therefore, they are not obligated to perform services or supply products to us for any specific period, in any specific quantities, or at any specific price, except as may be provided in a particular purchase order. None of our third-party foundry or assembly and test subcontractors have provided contractual assurances to us that adequate capacity will be available to us to meet future demand for our products. These foundries may allocate capacity to the production of other companies' products while reducing deliveries to us on short notice. In particular, foundry customers that are larger and better financed than us or that have long-term agreements with these foundries may cause these foundries to reallocate capacity to those customers, decreasing the capacity available to us. If we need another integrated circuit foundry or assembly and test subcontractor because of increased demand or the inability to obtain timely and adequate deliveries from our providers at the time, we might not be able to develop relationships with other vendors who are able to satisfy our requirements. Even if other integrated circuit foundries or assembly and test subcontractors are available at that time to satisfy our requirements, it would likely take several months to acquire a new provider. Such a change may also require the approval of our customers, which would take time to effect and could cause our customers to cancel orders or fail to place new orders.

***If our foundries do not achieve satisfactory yields or quality, our relationships with our customers and our reputation will be harmed.***

The fabrication of integrated circuits is a complex and technically demanding process. Our foundries have from time to time experienced manufacturing defects and reduced manufacturing yields. Changes in manufacturing processes or the inadvertent use of defective or contaminated materials by our foundries could result in lower than anticipated manufacturing yields or unacceptable performance. Many of these problems are difficult to detect at an early stage of the manufacturing process and may be time consuming and expensive to correct. Poor yields from our foundries, or defects, integration issues or other performance problems in our products could cause us significant customer relations and business reputation problems, harm our financial results and result in financial or other damages to our customers. Our customers could also seek damages from us for their losses. A product liability claim brought against us, even if unsuccessful, would likely be time consuming and costly to defend. In addition, defects in our existing or new products could result in significant warranty, support and repair costs, and divert the attention of our engineering personnel from our product development efforts.

***We depend on key personnel with whom we do not have employment agreements to manage our business, and if we are unable to retain our current personnel and hire additional personnel, our ability to develop and successfully market our products could be harmed.***

We believe our future success will depend in large part upon our ability to attract and retain highly skilled managerial, engineering and sales and marketing personnel. The loss of any key employees or the inability to attract or retain qualified personnel, including engineers and sales and marketing personnel, could delay the development and introduction of, and harm our ability to sell, our products. We believe that our future success is highly dependent on the contributions of Dr. Sehat Sutardja, our co-founder, President and Chief Executive Officer; Dr. Pantas Sutardja, our co-founder and Vice President; and Weili Dai, our co-founder and Executive Vice President. We do not have employment contracts with these or any other key personnel, and their knowledge of our business and industry would be extremely difficult to replace.

There is currently a shortage of qualified technical personnel with significant experience in the design, development, manufacture, marketing and sales of integrated circuits for use in communications products. In particular, there is a shortage of engineers who are familiar with the intricacies of the design and manufacture of products based on analog technology, and competition for these engineers is intense. Our key technical personnel represent a significant asset and serve as the source of our technological and product innovations. We may not be successful in attracting and retaining sufficient numbers of technical personnel to support our anticipated growth.

***Our rapid growth has strained our resources and our inability to manage any future growth could harm our profitability.***

Our rapid growth has placed, and any future growth of our operations will continue to place, a significant strain on our management personnel, systems and resources. We anticipate that we will need to implement a variety of new and upgraded operational and financial systems, procedures and controls, including the improvement of our accounting and other internal management systems. We also expect that we will need to continue to expand, train, manage and motivate our workforce. All of these endeavors will require substantial management effort. If we are unable to effectively manage our expanding operations, our operating results could be harmed.

We are currently in the process of implementing a new Enterprise Resource Planning, or ERP, system. An ERP system implementation is a very complex, costly and time-consuming process. Any unforeseen delays or difficulties in the system implementation may divert the attention of management and other employees and disrupt our ongoing business and could have a material adverse impact on our financial condition and results of operations.

***If we are not successful in subleasing our unused office space at rates that will cover our lease cost, we will be required to record a period charge for the difference between the total actual or estimated sublease income and our lease cost.***

In October 2001, we entered into a lease agreement with Yahoo! Inc. to lease a building in California consisting of approximately 213,000 square feet. The lease began on January 1, 2002 and continues through March 16, 2006. Total rent payments over the term of the lease will be approximately \$19.4 million. During the first quarter of fiscal 2003, we intend to consolidate our three existing facilities in California into this new building. The lease on one of our existing facilities expired in February 2002, but we have ongoing, non-cancelable leases for the two other facilities. We are currently attempting to secure subtenants for the remainder of our lease terms for these two facilities. If we are not successful in subleasing these two facilities at rates that will cover our lease cost, we will be required to record a period charge for the difference between the total actual or estimated sublease income and our lease cost. In addition, we will continue to be required to pay the full amount of our contracted lease payments while the facilities are vacant or while they are subleased at lesser rates. The future minimum lease payments for the two unoccupied facilities total \$15.7 million.

***We face foreign business, political and economic risks, which may harm our results of operations, because a majority of our products and our customers' products are manufactured and sold outside of the United States.***

A substantial portion of our business is conducted outside of the United States and, as a result, we are subject to foreign business, political and economic risks. All of our products are manufactured outside of the United States. Our current qualified integrated circuit foundries are located in the same region within Taiwan, and our primary assembly and test subcontractors are located in the Pacific Rim region. In addition, many of our customers are located outside of the United States, primarily in Asia, which further exposes us to foreign risks. Sales to customers located in Asia represented approximately 83%, 92% and 99% of our net revenue in fiscal 2002, 2001 and 2000, respectively.

We anticipate that our manufacturing, assembly, testing and sales outside of the United States will continue to account for a substantial portion of our operations and revenue in future periods. Accordingly, we are subject to international risks, including:

- difficulties in obtaining domestic and foreign export, import and other governmental approvals, permits and licenses;
- compliance with foreign laws;
- difficulties in staffing and managing foreign operations;
- trade restrictions or higher tariffs;
- transportation delays;
- difficulties of managing distributors, especially because we expect to continue to increase our sales through international distributors;
- political and economic instability, including hostilities and political unrest, boycotts, curtailment of trade and other business restrictions; and
- inadequate local infrastructure.

Because all of our sales to date have been denominated in United States dollars, increases in the value of the United States dollar will increase the price of our products so that they become relatively more expensive to customers in the local currency of a particular country, potentially leading to a reduction in sales and profitability for us in that country. A portion of our international revenue may be denominated in foreign currencies in the future, which will subject us to risks associated with fluctuations in exchange rates for those foreign currencies.

***In the past, the State of California has experienced electricity shortages that have resulted in corresponding increases in prices and rolling blackouts. If electricity shortages occur in the future, our research and development and other operations may be negatively affected.***

In the past, the State of California has experienced electricity shortages that have resulted in corresponding increases in prices and "rolling blackouts." During fiscal 2001, this resulted in one instance in which we were subjected to a rolling blackout. When we are subjected to rolling blackouts, all electricity to our facilities is cut off and we are unable to use our computers, telephones and other equipment that is critical to our research and development and other functions. Some of our customers who have operations in California were also negatively affected by the electricity shortage. If we are subjected to a series of rolling blackouts or to a single extended rolling blackout as a result of any future electricity shortages in California, our research and development and other operations will be negatively affected.

***Our third-party foundries and subcontractors are concentrated in Taiwan and elsewhere in the Pacific Rim, an area subject to significant earthquake risks. Any disruption to the operations of these foundries and subcontractors resulting from earthquakes or other natural disasters could cause significant delays in the production or shipment of our products.***

Substantially all of our products are manufactured by Taiwan Semiconductor Manufacturing Company, which is located in Taiwan. Currently our only alternative manufacturing sources are located in Taiwan and China. In addition, substantially all of our assembly and testing facilities are located in Singapore, Taiwan and the Philippines. The risk of an earthquake in Taiwan and elsewhere in the Pacific Rim region is significant due to the proximity of major earthquake fault lines to the facilities of our foundries and assembly and test subcontractors. In September 1999, a major earthquake in Taiwan affected the facilities of several of these third-party contractors. As a consequence of this earthquake, these contractors suffered power outages and disruptions that impaired their production capacity. In March 2002, another major earthquake occurred in Taiwan. Although our foundries and subcontractors did not suffer any significant damage as a result of this most recent earthquake, the occurrence of additional earthquakes or other natural disasters could result in the disruption of our foundry or assembly and test capacity. Any disruption resulting from such events could cause significant delays in the production or shipment of our products until we are able to shift our manufacturing, assembling or testing from the affected contractor to another third-party vendor. We may not be able to obtain alternate capacity on favorable terms, if at all.

***We rely on third-party distributors and manufacturers' representatives and the failure of these distributors and manufacturers' representatives to perform as expected could reduce our future sales.***

We sell our communications products to customers primarily through distributors and manufacturers' representatives. Our relationships with some of our distributors and manufacturers' representatives have been established within the last year, and we are unable to predict the extent to which our distributors and manufacturers' representatives will be successful in marketing and selling our products. Moreover, many of our manufacturers' representatives and distributors also market and sell competing products. Our representatives and distributors may terminate their relationships with us at any time. Our future performance will also depend, in part, on our ability to attract additional distributors or manufacturers' representatives that will be able to market and support our products effectively, especially in markets in which we have not previously distributed our products. If we cannot retain our current distributors or manufacturers' representatives or recruit additional or replacement distributors or manufacturers' representatives, our sales and operating results will be harmed. The loss of one or more of our distributors or manufacturers' representatives could harm our sales and results of operations. We generally realize a higher gross margin on direct sales and from sales through manufacturers' representatives than on sales through distributors. Accordingly, if our distributors were to account for an increased portion of our net sales, our gross margins may decline.

***Any future acquisitions and transactions may not be successful.***

We expect to continue to make acquisitions of, and investments in, businesses that offer complementary products, services and technologies, augment our market segment coverage, or enhance our technological capabilities. We may also enter into strategic alliances or joint ventures to achieve these goals. We cannot assure you that we will be able to identify suitable acquisition, investment, alliance, or joint venture opportunities or that we will be able to consummate any such transactions or relationships on terms and conditions acceptable to us, or that such transactions or relationships will be successful.

Any transactions or relationships will be accompanied by the risks commonly encountered with those matters. Risks that could have a material adverse affect on our business, results of operations or financial condition include, among other things:

- the difficulty of assimilating the operations and personnel of an acquired businesses;
- the potential disruption of our ongoing business;
- the distraction of management from our business;

## [Table of Contents](#)

- the potential inability of management to maximize the financial and strategic position of us as a result of an acquisition;
- the potential difficulty maintaining uniform standards, controls, procedures and policies;
- the impairment of relationships with employees and clients as a result of any integration of new management personnel;
- the risk of entering market segments in which we have no or limited direct prior experience and where competitors in such market segments have stronger market segment positions; and
- the potential loss of key employees of an acquired company.

***The average selling prices of products in our markets have historically decreased rapidly and will likely do so in the future, which could harm our revenues and gross profits.***

The products we develop and sell are used for high volume applications. As a result, the prices of those products have historically decreased rapidly. Our gross profits and financial results will suffer if we are unable to offset any reductions in our average selling prices by increasing our sales volumes, reducing our costs, or developing new or enhanced products on a timely basis with higher selling prices or gross profits. We expect that our gross profits on our storage products are likely to decrease over the next fiscal year below levels we have historically experienced due to (i) pricing pressures from our customers and (ii) an increase in sales of SOCs, which typically have lower margins than standalone read channel devices. In addition, if our sales of storage products into the desktop computer market were to increase as a percentage of total storage revenues, our margins would also likely decrease because gross margins on sales into this market are generally lower than for sales into the enterprise and mobile computer markets, where we currently generate the substantial majority of our storage product revenues.

Additionally, because we do not operate our own manufacturing, assembly or testing facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities, and our costs may even increase, which could also reduce our margins. In the past, we have reduced the average selling prices of our products in anticipation of future competitive pricing pressures, new product introductions by us or our competitors and other factors. We expect that we will have to do so again in the future.

***We have a lengthy and expensive storage product sales cycle that does not assure product sales, and that if unsuccessful, may harm our operating results.***

The sales cycle for our storage products is long and requires us to invest significant resources with each potential customer without any assurance of sales to that customer. Our sales cycle typically begins with a three to six month evaluation and test period, also known as qualification, during which our products undergo rigorous reliability testing by our customers.

Qualification is typically followed by a 12 to 18 month development period by our customers and an additional three to six month period before a customer commences volume production of equipment incorporating our products. This lengthy sales cycle creates the risk that our customers will decide to cancel or change product plans for products incorporating our integrated circuits. During our sales cycle, our engineers assist customers in implementing our products into the customers' products. We incur significant research and development and selling, general and administrative expenses as part of this process, and this process may never generate related revenues. We derive revenue from this process only if our design is selected. Once a customer selects a particular integrated circuit for use in a storage product, the customer generally uses solely that integrated circuit for a full generation of its product. Therefore, if we do not achieve a design win for a product, we will be unable to sell our integrated circuit to a customer until that customer develops a new product or a new generation of its product. Even if we achieve a design win with a customer, the customer may not ultimately ship products incorporating our products or may cancel orders after we have achieved a sale. In addition, we will have to begin the qualification process again when a customer develops a new generation of a product for which we were the successful supplier.

## [Table of Contents](#)

Also, during the final production of a mature product, our customers typically exhaust their existing inventory of our integrated circuits. Consequently, orders for our products may decline in those circumstances, even if our products are incorporated into both our customers' mature and replacement products. A delay in a customer's transition to commercial production of a replacement product may cause the customer to lose sales, which would delay our ability to recover the lost sales from the discontinued mature product. In addition, customers may defer orders in anticipation of new products or product enhancements from us or our competitors.

***We are subject to the cyclical nature of the integrated circuit industry. The current and any future downturns will likely reduce our revenue and result in excess inventory.***

The integrated circuit industry is highly cyclical and is characterized by constant and rapid technological change, rapid product obsolescence and price erosion, evolving standards, short product life cycles and wide fluctuations in product supply and demand. The industry has experienced, and is currently experiencing, significant downturns, often connected with, or in anticipation of, maturing product cycles of both integrated circuit companies' and their customers' products and declines in general economic conditions. These downturns have been characterized by diminished product demand, production overcapacity, high inventory levels and accelerated erosion of average selling prices. The current downturn and any future downturns may reduce our revenue or our percentage of revenue growth on a quarter-to-quarter basis and result in us having excess inventory.

Furthermore, any upturn in the integrated circuit industry could result in increased competition for access to third-party foundry, assembly and test capacity.

***When demand for foundry capacity is high, we may take various actions to try to secure sufficient capacity, which may be costly and harm our operating results.***

Availability of foundry capacity has in the recent past been reduced due to strong demand. In order to secure sufficient foundry capacity when demand is high, we may enter into various arrangements with suppliers that could be costly and harm our operating results, including:

- option payments or other prepayments to a foundry;
- nonrefundable deposits with or loans to foundries in exchange for capacity commitments;
- contracts that commit us to purchase specified quantities of integrated circuits over extended periods;
- issuance of our equity securities to a foundry;
- investment in a foundry; and
- other partnership relationships with foundries.

We may not be able to make any such arrangement in a timely fashion or at all, and any arrangements may be costly, reduce our financial flexibility, and not be on terms favorable to us. Moreover, if we are able to secure foundry capacity, we may be obligated to use all of that capacity or incur penalties. These penalties may be expensive and could harm our financial results.

***The development and evolution of markets for our integrated circuits are dependent on factors, such as industry standards, over which we have no control. For example, if our customers adopt new or competing industry standards with which our products are not compatible or fail to adopt standards with which our products are compatible, our existing products would become less desirable to our customers and our sales would suffer.***

The emergence of markets for our integrated circuits is affected by a variety of factors beyond our control. In particular, our products are designed to conform to current specific industry standards. Our customers may not adopt or continue to follow these standards, which would make our products less desirable to our

## [Table of Contents](#)

customers and reduce our sales. Also, competing standards may emerge that are preferred by our customers, which could also reduce our sales and require us to make significant expenditures to develop new products.

We have made a significant investment in the development and production of our Gigabit Ethernet products. However, the Gigabit Ethernet technology is relatively new compared to the more established 10 and 100 megabit per second Fast Ethernet technologies. If the Gigabit Ethernet technology does not achieve widespread market acceptance, our revenue and operating results may be harmed. We have also made a significant investment in the development of wireless LAN products based on the IEEE 802.11b standard. Wireless LAN technologies are relatively new and many competing standards, such as IEEE 802.11a and Bluetooth™, exist. If the 802.11b standard does not achieve widespread market acceptance, our revenue and operating results may be harmed.

***We may be unable to protect our intellectual property, which would negatively affect our ability to compete.***

We believe one of our key competitive advantages results from our collection of proprietary technologies that we have developed since our inception. If we fail to protect these intellectual property rights, competitors could sell products based on technology that we have developed, which could harm our competitive position and decrease our revenues. We believe that the protection of our intellectual property rights is and will continue to be important to the success of our business. We rely on a combination of patent, copyright, trademark and trade secret laws, as well as nondisclosure agreements and other methods, to protect our proprietary technologies. We also enter into confidentiality or license agreements with our employees, consultants and business partners, and control access to and distribution of our documentation and other proprietary information. We have been issued several United States patents and have a number of pending United States patent applications. However, a patent may not be issued as a result of any applications or, if issued, claims allowed may not be sufficiently broad to protect our technology. In addition, it is possible that existing or future patents may be challenged, invalidated or circumvented. Despite our efforts, unauthorized parties may attempt to copy or otherwise obtain and use our products or proprietary technology. Monitoring unauthorized use of our technology is difficult, and the steps that we have taken may not prevent unauthorized use of our technology, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the United States.

***Significant litigation over intellectual property in our industry may cause us to become involved in costly and lengthy litigation, which could subject us to liability, require us to stop selling our products or force us to redesign our products.***

Litigation involving patents and other intellectual property is widespread in the high-technology industry and is particularly prevalent in the integrated circuit industry, where a number of companies aggressively bring numerous infringement claims to protect their patent portfolios. From time to time we receive, and may continue to receive in the future, notices that claim we have infringed upon, misappropriated or misused the proprietary rights of other parties. These claims could result in litigation which, in turn, could subject us to significant liability for damages. These lawsuits, regardless of their success, would likely be time-consuming and expensive to resolve and would divert management time and attention. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling products or using technology that contain the allegedly infringing intellectual property;
- pay damages to the party claiming infringement;
- attempt to obtain a license to the relevant intellectual property, which license may not be available on reasonable terms or at all; and
- attempt to redesign those products that contain the allegedly infringing intellectual property.

***We are incorporated in Bermuda, and, as a result, it may not be possible for our shareholders to enforce civil liability provisions of the securities laws of the United States.***

We are organized under the laws of Bermuda. As a result, it may not be possible for our shareholders to effect service of process within the United States upon us, or to enforce against us in United States courts judgments based on the civil liability provisions of the securities laws of the United States. Most of our executive officers and directors are residents of the United States. However, there is significant doubt as to whether the courts of Bermuda would recognize or enforce judgments of United States courts obtained against us or our directors or officers based on the civil liability provisions of the securities laws of the United States or any state or hear actions brought in Bermuda against us or those persons based on those laws. The United States and Bermuda do not currently have a treaty providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. Therefore, a final judgment for the payment of money rendered by any federal or state court in the United States based on civil liability, whether or not based solely on United States federal or state securities laws, would not be automatically enforceable in Bermuda.

***Our Bye-laws contain a waiver of claims or rights of action by our shareholders against our officers and directors, which will severely limit our shareholders' right to assert a claim against our officers and directors under Bermuda law.***

Our Bye-laws contain a broad waiver by our shareholders of any claim or right of action, both individually and on our behalf, against any of our officers and directors. The waiver applies to any action taken by an officer or director, or the failure of an officer or director to take any action, in the performance of his or her duties with or for us, other than with respect to any matter involving any fraud or dishonesty on the part of the officer or director. This waiver will limit the rights of our shareholders to assert claims against our officers and directors unless the act complained of involves actual fraud or dishonesty. Thus, so long as acts of business judgment do not involve actual fraud or dishonesty, they will not be subject to shareholder claims under Bermuda law. For example, shareholders will not have claims against officers and directors for a breach of trust, unless the breach rises to the level of actual fraud or dishonesty.

***We are subject to uncertainty regarding how the United States federal income tax laws apply to our business. If our application of the tax code is incorrect, our operating results could be harmed.***

As a Bermuda corporation, we are subject to United States federal income tax at regular corporate rates and to United States branch profits tax, in each case to the extent that our income is effectively connected with the conduct of a trade or business in the United States. The determination of whether income of a foreign corporation is effectively connected with the conduct of a trade or business in the United States and, therefore, is subject to United States tax, involves a consideration of all the facts and circumstances and the application of legal standards that are uncertain. There have been few court cases or rulings by the Internal Revenue Service addressing the application of these legal standards, and we believe that none of these cases or rulings relate to facts precisely like ours. Our position is that our business operations do not generate any income that is effectively connected with a United States trade or business. Because of the uncertainty as to how United States federal income tax laws apply to the way we conduct our business, we believe the Internal Revenue Service may disagree with our past or future positions as to the amount of effectively connected income that we earn. Therefore, if our positions are disallowed, the amount we have accrued in our financial statements for United States federal income taxes may be insufficient to the extent of the difference between the income tax rate ultimately determined to apply and the tax rate that we have used to accrue for income taxes in our financial statements. In addition, we could be required to make significant cash payments for back taxes and interest based on the difference between the income tax rate ultimately determined to apply and the rate at which we paid those taxes.

***Tax benefits we receive may be terminated or reduced in the future, which would increase our costs.***

Under current Bermuda law, we are not subject to tax on our income or capital gains. We have obtained from the Minister of Finance of Bermuda under the Exempt Undertakings Tax Protection Act 1966, as amended, an undertaking that, in the event that Bermuda enacts any legislation imposing tax computed on

income or capital gains, those taxes should not apply to us until March 28, 2016. However, this exemption may not be extended beyond that date.

The Economic Development Board of Singapore granted Pioneer Status to our wholly-owned subsidiary in Singapore in July 2000 for a period of at least six years, commencing July 1, 1999. As a result, we anticipate that a significant portion of the income we earn in Singapore during this period will be exempt from the 26% Singapore tax rate. We are required to meet several requirements as to investment, headcount and activities in Singapore to retain this status. If our Pioneer Status is terminated early, our financial results could be harmed.

The Israeli government has granted Approved Enterprise Status to our wholly-owned subsidiary in Israel, which provides a tax holiday on undistributed income derived from operations within certain “development regions” in Israel. In order to maintain our qualification, we must continue to meet specified conditions, including the making of investments in fixed assets in Israel. As our tax holidays expire, we expect that we will start paying income tax on our operations within these development regions. Some of our regional tax holidays have already expired and we are currently paying income taxes in these regions.

***If we are classified as a passive foreign investment company, our shareholders may suffer adverse tax consequences.***

Because we are incorporated in Bermuda and have operations in the United States, Israel and Singapore, we are subject to special rules and regulations, including rules regarding a passive foreign investment company, or PFIC. We believe that we are not a PFIC, and we expect to continue to manage our affairs so that we will not become a PFIC. However, whether we should be treated as a PFIC is a factual determination that is made annually and is subject to change. If we are classified as a PFIC, then each United States holder of our common stock would, upon qualifying distributions by us or upon the pledge or sale of their shares of common stock at a gain, be liable to pay tax at the then prevailing rates on ordinary income plus an interest charge, generally as if the distribution or gain had been earned ratably over the shareholder’s holding period. In addition to the risks related to PFIC status, we and our shareholders could also suffer adverse tax consequences if we are classified as a foreign personal holding company, a personal holding company or a controlled foreign corporation.

***Our officers and directors own a large percentage of our voting stock, and three existing directors, who are also significant shareholders, are related by blood or marriage. These factors may allow the officers and directors as a group or the three related directors to control the election of directors and the approval or disapproval of significant corporate actions.***

As of March 31, 2002, our executive officers and directors beneficially owned or controlled, directly or indirectly, approximately 42% of the outstanding shares of our common stock. Additionally, Sehat Sutardja and Weili Dai are husband and wife and Sehat Sutardja and Pantas Sutardja are brothers. All three are directors and together they held approximately 30% of our outstanding common stock as of March 31, 2002. As a result, if the directors and officers as a group or any of Sehat Sutardja, Pantas Sutardja and Weili Dai act together, they will significantly influence, and will likely control, the election of our directors and the approval or disapproval of our significant corporate actions. This influence over our affairs might be adverse to the interests of other shareholders. In addition, the voting power of these officers or directors could have the effect of delaying or preventing an acquisition of us on terms that other shareholders may desire.

Under Bermuda law all of our officers, in exercising their powers and discharging their duties, must act honestly and in good faith with a view to our best interests and exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances. Majority shareholders do not owe fiduciary duties to minority shareholders. As a result, the minority shareholders will not have a direct claim against the majority shareholders in the event the majority shareholders take actions that damage the interests of minority shareholders. Class actions and derivative actions are generally not available to shareholders under the laws of Bermuda, except the Bermuda courts would be expected to follow English case law precedent, which would permit a shareholder to bring an action in our name if the directors or officers are alleged to be acting beyond our corporate power, committing illegal acts or violating our Memorandum of Association or

Bye-laws. In addition, minority shareholders would be able to challenge a corporate action that allegedly constituted a fraud against them or required the approval of a greater percentage of our shareholders than actually approved it. The winning party in such an action generally would be able to recover a portion of attorneys' fees incurred in connection with the action.

***Class action litigation due to stock price volatility or other factors could cause us to incur substantial costs and divert our management's attention and resources.***

On July 31, 2001, a putative class action suit was filed against two investment banks that participated in the underwriting of our initial public offering, or IPO, on June 29, 2000. That lawsuit, which did not name Marvell or any of our officers or directors as defendants, was filed in the United States District Court for the Southern District of New York. Plaintiffs allege that the underwriters received "excessive" and undisclosed commissions and entered into unlawful "tie-in" agreements with certain of their clients in violation of Section 10(b) of the Securities Exchange Act of 1934. Thereafter, on September 5, 2001, a second putative class action was filed in the Southern District of New York relating to our IPO. In this second action, plaintiffs named three underwriters as defendants and also named as defendants Marvell and two of our officers, one of whom is also a director. Relying on many of the same allegations contained in the initial complaint in which Marvell was not named as a defendant, plaintiffs allege that the defendants violated various provisions of the Securities Act of 1933 and the Securities Exchange Act of 1934. In both actions, plaintiffs seek, among other items, unspecified damages, pre-judgment interest and reimbursement of attorneys' and experts' fees. These two actions relating to our IPO have been consolidated with hundreds of other lawsuits filed by plaintiffs against approximately 40 underwriters and approximately 300 issuers across the United States. To date, there have been no significant developments in the consolidated litigation. It is expected that a small number of cases will be designated as "test cases" for purposes of initial challenges to the pleadings, which are not expected to be briefed, argued and decided before mid-2002. We believe that the claims asserted against Marvell and our officers are without merit and intend to defend these claims vigorously. Based on currently available information, we do not believe that the ultimate disposition of the lawsuit naming Marvell and our officers will have a material adverse impact on our business or financial condition. However, these claims and any resulting litigation could result in substantial costs and could divert the attention and resources of our management.

In the past, securities class action litigation often has been brought against a company following periods of volatility in the market price of its securities. Companies in the integrated circuit industry and other technology industries are particularly vulnerable to this kind of litigation due to the high volatility of their stock prices. Accordingly, we may in the future be the target of securities litigation. Any securities litigation could result in substantial costs and could divert the attention and resources of our management.

***Future sales of our common stock in the public market may depress our stock price.***

A substantial number of our shares remain available for sale pursuant to Rule 144. Future sales of a substantial number of shares of our common stock in the public market could cause our stock price to decline. As of March 31, 2002, we had 119,001,666 shares outstanding and none of these shares are subject to any lock-up agreements. The market price of our stock could drop significantly if holders of a substantial number of our shares sell them or are perceived by the market as intending to sell them. In addition, the sale of our shares could impair our ability to raise capital through the sale of additional stock.

***Our Bye-laws contain provisions that could delay or prevent a change in corporate control, even if the change in corporate control would benefit our shareholders.***

Our Bye-laws contain change in corporate control provisions which include:

- authorizing the issuance of preferred stock without shareholder approval;
- providing for a classified board of directors with staggered, three-year terms; and
- requiring a vote of two-thirds of the outstanding shares to approve any change of corporate control.

These change in corporate control provisions could make it more difficult for a third-party to acquire us, even if doing so would be a benefit to our shareholders.

**Item 7A. Quantitative and Qualitative Disclosures About Market Risk.**

*Interest Rate Risk.* The primary objective of our investment activities is to preserve principal while at the same time maximize the income we receive from our investments without significantly increasing risk. Some of the securities that we have invested in may be subject to market risk. This means that a change in prevailing interest rates may cause the principal amount of the investment to fluctuate. For example, if we hold a security that was issued with a fixed interest rate at the then-prevailing rate and the prevailing interest rate later rises, the principal amount of our investment will probably decline, while variable rate securities may produce less income than expected if interest rates fall. To minimize this risk, we maintain our portfolio of cash equivalents and short-term investments in a variety of fixed and variable rate securities including money market funds; corporate debt securities; State, county and municipal debt securities; and foreign government securities. In general, money market funds are not subject to market risk because the interest paid on such funds fluctuates with the prevailing interest rate. The following table presents the amounts of our cash equivalents and short-term investments that are subject to market risk by range of expected maturity and weighted-average interest rates as of January 31, 2002 (in thousands). This table does not include money market funds because those funds are not subject to market risk.

	Expected Fiscal Year Maturity Date				Total	Fair Value
	2003	2004	2005	2006		
Variable Rate	\$12,510	\$ 4,898	\$ —	\$ —	\$ 17,408	\$ 17,338
Average Interest Rate	2.15%	2.80%	—	—	2.24%	
Fixed Rate	\$21,652	\$34,619	\$33,039	\$32,547	\$121,857	\$121,471
Average Interest Rate	4.30%	3.91%	3.72%	4.41%	4.06%	

*Investment Risk.* We invest in equity instruments of privately-held companies for business and strategic purposes. These investments are included in other noncurrent assets in the accompanying balance sheets and are accounted for under the cost method as our ownership is less than 20% and we do not have the ability to exercise significant influence over the operations on these companies. Since our initial investment, one of these equity investments in a privately-held company has become marketable upon the investee completing an initial public offering. Such an investment is subject to significant fluctuations in fair market value due to the volatility of the stock market. This investment is recorded at market value and is classified as a short-term investment in the accompanying balance sheets.

*Foreign Currency Exchange Risk.* All of our sales and the majority of our expenses to date have been denominated in United States dollars, and, as a result, we have relatively little exposure to foreign currency exchange risk. We do not currently enter into forward exchange contracts to hedge exposures denominated in foreign currencies or any other derivative financial instruments for trading or speculative purposes. However, in the event our exposure to foreign currency risk increases, we may choose to hedge those exposures in the future.

**Item 8. Financial Statements and Supplementary Data.**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

	<b>Page</b>
Report of Independent Accountants	55
Consolidated Balance Sheets	56
Consolidated Statements of Operations	57
Consolidated Statements of Shareholders' Equity	58
Consolidated Statements of Cash Flows	59
Notes to Consolidated Financial Statements	60

**REPORT OF INDEPENDENT ACCOUNTANTS**

To the Shareholders and Board of Directors of

Marvell Technology Group Ltd.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of shareholders' equity and of cash flows present fairly, in all material respects, the financial position of Marvell Technology Group Ltd. and its subsidiaries (the "Company") at January 31, 2002 and 2001, and the results of their operations and their cash flows for each of the three years in the period ended January 31, 2002, in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PRICEWATERHOUSECOOPERS LLP

San Jose, California

February 27, 2002

**MARVELL TECHNOLOGY GROUP LTD.**  
**CONSOLIDATED BALANCE SHEETS**

	January 31,	
	2002	2001
	(In thousands, except par value)	
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 114,483	\$ 184,128
Short-term investments	135,761	39,935
Accounts receivable, net of allowances of \$1,232 and \$1,218	42,150	37,543
Inventory	23,600	30,924
Prepaid expenses and other current assets	14,135	7,717
Deferred income taxes	9,287	3,762
	339,416	304,009
Property and equipment, net	52,924	31,184
Goodwill and acquired intangible assets	1,680,740	2,100,839
Other noncurrent assets	17,975	11,454
	2,091,055	2,447,486
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 30,990	\$ 24,818
Accrued liabilities	14,083	9,521
Accrued employee compensation	11,755	7,802
Accrued acquisition costs	—	29,530
Income taxes payable	17,744	9,998
Deferred income	8,907	6,516
Current portion of capital lease obligations	1,039	37
	84,518	88,222
Capital lease obligations	10,017	—
Other long-term liabilities	6,793	2,598
	101,328	90,820
Commitments and contingencies (Note 10)		
Shareholders' equity:		
Preferred stock, \$0.002 par value; 8,000 shares authorized; no shares issued and outstanding	—	—
Common stock, \$0.002 par value; 242,000 shares authorized; 118,577 and 115,337 shares issued and outstanding, respectively	238	231
Additional paid-in capital	2,646,757	2,617,490
Deferred stock-based compensation	(10,099)	(28,113)
Accumulated other comprehensive income	946	19
Accumulated deficit	(648,115)	(232,961)
	1,989,727	2,356,666
Total liabilities and shareholders' equity	\$2,091,055	\$2,447,486

See accompanying Notes to Consolidated Financial Statements.

**MARVELL TECHNOLOGY GROUP LTD.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	Years Ended January 31,		
	2002	2001	2000
	(In thousands, except per share amounts)		
Net revenue	\$ 288,795	\$ 143,894	\$ 81,375
Operating costs and expenses:			
Cost of goods sold(1)	130,807	67,047	33,773
Research and development(2)	93,422	35,152	14,452
Selling and marketing(3)	40,170	21,686	10,436
General and administrative(4)	13,191	6,185	3,443
Amortization of stock-based compensation	15,022	8,259	2,175
Amortization of goodwill and acquired intangible assets	418,032	8,031	—
Acquired in-process research and development	—	234,874	—
Total operating costs and expenses	710,644	381,234	64,279
Operating income (loss)	(421,849)	(237,340)	17,096
Interest and other income, net	9,994	4,559	330
Income (loss) before income taxes	(411,855)	(232,781)	17,426
Provision for income taxes	3,299	2,339	4,356
Net income (loss)	\$ (415,154)	\$ (235,120)	\$ 13,070
Net income (loss) per share:			
Basic	\$ (3.63)	\$ (3.55)	\$ 0.32
Diluted	\$ (3.63)	\$ (3.55)	\$ 0.16
Weighted average shares:			
Basic	114,353	66,259	41,094
Diluted	114,353	66,259	81,545

- (1) Excludes amortization of stock-based compensation of \$298, \$416 and \$11 in fiscal 2002, 2001 and 2000.
- (2) Excludes amortization of stock-based compensation of \$9,837, \$3,367 and \$1,373 in fiscal 2002, 2001 and 2000.
- (3) Excludes amortization of stock-based compensation of \$2,655, \$3,997 and \$211 in fiscal 2002, 2001 and 2000.
- (4) Excludes amortization of stock-based compensation of \$2,232, \$479 and \$580 in fiscal 2002, 2001 and 2000.

See accompanying Notes to Consolidated Financial Statements.



Balance at January 31, 2002	<u>118,577</u>	<u>\$ 238</u>	<u>\$2,646,757</u>	<u>\$ (10,099)</u>	<u>\$ 946</u>	<u>\$ (648,115)</u>	<u>\$1,989,727</u>
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See accompanying Notes to Consolidated Financial Statements.

**MARVELL TECHNOLOGY GROUP LTD.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Years Ended January 31,		
	2002	2001	2000
	(In thousands)		
<b>Cash flows from operating activities:</b>			
Net income (loss)	\$(415,154)	\$(235,120)	\$13,070
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	16,661	4,713	1,652
Amortization of stock-based compensation	15,022	8,259	2,175
Amortization of goodwill and acquired intangible assets	418,032	8,031	—
Acquired in-process research and development	—	234,874	—
Tax benefit from employee stock transactions	—	713	—
Changes in assets and liabilities, net of assets acquired and liabilities assumed in purchase acquisition:			
Accounts receivable	(4,607)	(9,254)	(9,204)
Inventory	7,324	(8,720)	(2,515)
Prepaid expenses and other assets	(7,744)	(6,981)	(1,187)
Accounts payable	6,172	10,078	1,963
Accrued liabilities	5,301	2,261	1,618
Accrued employee compensation	3,953	1,746	998
Income taxes payable	8,143	2,512	4,686
Deferred income	2,391	771	—
Deferred income taxes	(5,477)	(1,691)	(614)
Net cash provided by operating activities	50,017	12,192	12,642
<b>Cash flows from investing activities:</b>			
Cash received from purchase acquisition	—	69,990	—
Purchases of short-term investments	(118,728)	—	—
Maturities of short-term investments	27,784	—	—
Acquisition costs	(29,450)	(1,423)	—
Purchases of property and equipment	(24,620)	(12,161)	(6,808)
Purchases of technology licenses	(4,017)	—	—
Other	(2,556)	(25)	—
Net cash provided by (used in) investing activities	(151,587)	56,381	(6,808)
<b>Cash flows from financing activities:</b>			
Proceeds from the issuance of convertible preferred stock	—	400	4,829
Proceeds from the issuance of common stock	32,381	99,108	2,045
Repurchases of common stock	(115)	(480)	—
Principal payments on capital lease obligations and notes payable	(341)	(73)	(3,579)
Proceeds from borrowings on notes payable	—	—	1,956
Net cash provided by financing activities	31,925	98,955	5,251
Net increase (decrease) in cash and cash equivalents	(69,645)	167,528	11,085
Cash and cash equivalents at beginning of period	184,128	16,600	5,515
Cash and cash equivalents at end of period	\$ 114,483	\$ 184,128	\$16,600
<b>Supplemental cash flow information:</b>			
Cash paid for interest	\$ 45	\$ 2	\$ 174
Cash paid for income taxes	\$ 802	\$ 318	\$ 284
Acquisition of property and equipment under capital lease obligations	\$ 11,360	\$ —	\$ 176
Acquisition of technology licenses with deferred payments	\$ 3,333	\$ —	\$ —

See accompanying Notes to Consolidated Financial Statements.



**MARVELL TECHNOLOGY GROUP LTD.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 1 — The Company and its Significant Accounting Policies:**

***The Company***

Marvell Technology Group Ltd. (the "Company"), a Bermuda company, was incorporated on January 11, 1995. The Company designs, develops and markets integrated circuits utilizing proprietary communications mixed-signal processing, or CMSP, and digital signal processing technologies for communications-related markets. On January 21, 2001, the Company acquired Galileo Technology Ltd. ("Galileo"), an Israeli corporation. Galileo develops high-performance internetworking and switching products for the broadband communications market.

***Initial Public Offering***

In June 2000, the Company completed its initial public offering of common stock. A total of 6,900,000 shares were sold by the Company at a price of \$15.00 per share. The offering resulted in proceeds to the Company of approximately \$94.0 million, net of underwriting discounts and offering costs. At the closing of the offering, all issued and outstanding shares of the Company's Mandatorily Redeemable Convertible Preferred Stock were converted into an aggregate of 26,804,920 shares of common stock.

***Basis of Presentation***

The Company's fiscal year is the 52- or 53-week period ending on the Saturday closest to January 31. In a 52-week year, each fiscal quarter consists of 13 weeks. The additional week in a 53-week year is added to the fourth quarter, making such quarter consist of 14 weeks. Fiscal year 2002 was comprised of 53 weeks, and fiscal years 2001 and 2000 were comprised of 52 weeks. For presentation purposes, the financial statements and notes refer to January 31 as the Company's year-end.

***Use of Estimates***

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates, and such differences could affect the results of operations reported in future periods.

***Principles of Consolidation***

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated. The functional currency of the Company and its subsidiaries is the United States dollar.

***Fair Value of Financial Instruments***

The fair value of a financial instrument is the amount at which the instrument could be exchanged in a current transaction between willing parties. The carrying amounts for cash and cash equivalents, accounts receivable, prepaid expenses and other current assets, accounts payable, accrued liabilities, accrued employee compensation and accrued acquisition costs approximate their respective fair values because of the short-term nature of these items. The carrying value of the Company's debt approximates fair market value because of prevailing interest rates.

***Cash and Cash Equivalents***

The Company considers all highly liquid investments with a maturity of three months or less from the date of purchase to be cash equivalents. Cash and cash equivalents consist of cash on deposit with banks, money market funds and commercial deposits.

## MARVELL TECHNOLOGY GROUP LTD.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

**Investments**

The Company's marketable investments are classified as available-for-sale securities and are reported at fair value. Unrealized gains and losses are reported, net of tax, in accumulated other comprehensive income, a component of shareholders' equity. Realized gains and losses and declines in value judged to be other than temporary on available-for-sale securities are included in interest and other income, net. The Company views its available-for-sale portfolio as available for use in its current operations. Accordingly, the Company has classified all marketable investments as short-term, even though the stated maturity date may be one year or more beyond the current balance sheet date. The specific identification method is used to determine the cost of securities sold. Interest and dividends on securities classified as available-for-sale are included in interest and other income, net.

The Company also has equity investments in privately-held companies. These investments are recorded at cost as the Company does not have the ability to exercise significant influence over the operating and financial policies of these companies. These investments are included in other noncurrent assets on the accompanying balance sheets. The Company monitors these investments for impairment and makes appropriate reductions in carrying values when an impairment is deemed to be other than temporary.

**Concentration of Credit Risk and Significant Customers**

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash equivalents, short-term investments and accounts receivable. The Company places its cash primarily in checking and money market accounts. Cash equivalents and short-term investment balances are maintained with high quality financial institutions, the composition and maturities of which are regularly monitored by management. The Company believes that the concentration of credit risk in its trade receivables with respect to the storage and communications industries, as well as the limited customer base, located primarily in the Far East, are substantially mitigated by the Company's credit evaluation process, relatively short collection terms and the high level of credit worthiness of its customers. The Company performs ongoing credit evaluations of its customers' financial condition and limits the amount of credit extended when deemed necessary based upon payment history and the customer's current credit worthiness, but generally requires no collateral. The Company recorded charges for allowance for bad and doubtful accounts of \$200,000, \$1,118,000 and none in fiscal years 2002, 2001 and 2000, respectively. Receivables written off against the allowance aggregated \$186,000 in 2002 and none in both 2001 and 2000.

The following table sets forth sales to customers comprising 10% or more of the Company's net revenue for the periods indicated:

Customer	Years Ended January 31,		
	2002	2001	2000
A	17%	34%	36%
B	13%	*	10%
C	13%	22%	24%
D	12%	*	*
E	*	11%	14%
F	*	*	14%

\* Less than 10% of net revenue

The Company's accounts receivable were concentrated with three customers at January 31, 2002, representing 17%, 15% and 14% of accounts receivable, and were concentrated with three customers at January 31, 2001, representing 13%, 12% and 10% of accounts receivable.

**MARVELL TECHNOLOGY GROUP LTD.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

***Inventory***

Inventory is stated at the lower of cost or market, cost being determined under the first-in, first-out method. Appropriate consideration is given to obsolescence, excessive levels, deterioration and other factors in evaluating net realizable value.

***Property and Equipment***

Property and equipment, including capital leases and leasehold improvements, are stated at cost less accumulated depreciation and amortization. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, which ranges from three to five years. Assets held under capital leases and leasehold improvements are amortized over the shorter of term of the lease or their estimated useful lives.

***Goodwill and Acquired Intangible Assets***

Goodwill is recorded when the consideration paid for an acquisition exceeds the fair value of net tangible and intangible assets acquired. Goodwill and other acquisition-related intangible assets are amortized on a straight-line basis over their estimated economic lives of five years for goodwill, five years for developed technology, ten years for trade names and six years for workforce. At the beginning of fiscal 2003, the Company will discontinue the amortization of goodwill. The Company will also reclassify the carrying value of the acquired workforce of \$10.4 million into goodwill.

***Long-Lived Assets***

Long-lived assets, intangible assets and goodwill are reviewed for impairment whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. Factors considered important which could trigger an impairment review include (i) significant underperformance relative to expected historical or projected future operating results, (ii) significant changes in the manner of our use of the acquired assets or the strategy for the Company's overall business, (iii) significant negative industry or economic trends, (iv) a significant decline in the Company's stock price for a sustained period and (v) a significant change in the Company's market capitalization relative to its net book value. An impairment loss is recognized if the sum of the expected future cash flows (undiscounted and before interest) from the use of the asset is less than the net book value of the asset. The amount of the impairment loss will generally be measured as the difference between net book values of the asset and its estimated fair value. As of January 31, 2002, the Company has not recorded any impairment charges related to its long-lived assets, intangible assets and goodwill.

***Foreign Currency Transactions***

Monetary accounts maintained in currencies other than the United States dollar are remeasured using the foreign exchange rate at the balance sheet date. Operational accounts and nonmonetary balance sheet accounts are measured and recorded at the rate in effect at the date of the transaction. The effects of foreign currency remeasurement are reported in current operations. The effect of foreign currency remeasurement was not significant in fiscal years 2002, 2001 or 2000.

***Reclassifications***

Certain items have been reclassified to be consistent with current presentation. The reclassifications have no effect on previously disclosed net income (loss) or shareholders' equity.

**MARVELL TECHNOLOGY GROUP LTD.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

***Revenue Recognition***

The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred, the price is fixed or determinable and collection is reasonably assured. Under these criteria, product revenue is generally recognized upon shipment of product to customers, net of accruals for estimated sales returns and allowances. However, some of the Company's sales are made through distributors under agreements allowing for price protection and rights of return on product unsold by the distributors. Product revenue on sales made through distributors with rights of return is deferred until the distributors sell the product to end customers. Additionally, collection is not deemed to be "reasonably assured" if customers receive extended payment terms. As a result, revenue on sales to customers with payment terms substantially greater than the Company's normal payment terms is deferred and is recognized as revenue as the payments become due. Deferred revenue less the related cost of the inventories is reported as deferred income.

The provision for estimated sales returns and allowances on product sales is recorded in the same period the related revenues are recorded. These estimates are based on historical sales returns, analysis of credit memo data and other known factors. Actual returns could differ from these estimates.

The Company also enters into development agreements with some of its customers. Development revenue is recognized under the percentage-of-completion method, with the associated costs included in research and development expense. The Company estimates the percentage-of-completion of its development contracts based on an analysis of progress toward completion, which is measured using input measures such as percentage of completion.

***Research and Development***

Research and development costs are expensed as incurred.

***Stock-Based Compensation***

The Company's employee stock based compensation is accounted for in accordance with Accounting Principles Board Opinion No. 25 ("APB 25"), Accounting for Stock Issued to Employees and complies with the disclosure provisions of Statement of Financial Accounting Standards No. 123 ("SFAS 123"), Accounting for Stock-Based Compensation. Expense associated with stock-based compensation is amortized on an accelerated basis over the vesting periods of the individual awards consistent with the method described in Financial Accounting Standards Board Interpretation No. 28 ("FIN 28"). Application of FIN 28 results in amortization of approximately 46% of the compensation in the first 12 months of vesting, 26% of the compensation in the second 12 months of vesting, 15% of the compensation in the third 12 months of vesting, 9% of the compensation in the fourth 12 months of vesting and 4% of the compensation in the fifth 12 months of vesting. The Company accounts for stock issued to non-employees in accordance with the provisions of SFAS 123 and Emerging Issues Task Force Consensus No. 96-18 ("EITF 96-18"), Accounting for Equity Instruments that are Offered to Other Than Employees for Acquiring of in Conjunction with Selling Goods or Services. Under SFAS 123 and EITF 96-18, stock option awards issued to non-employees are accounted for at their fair value using the Black-Scholes valuation method. The fair value of each non-employee stock award is remeasured at each period end until a commitment date is reached, which is generally the vesting date.

***Comprehensive Income (Loss)***

For the years ended January 31, 2002 and 2001, comprehensive loss is comprised of net loss and unrealized gains and losses on available-for-sale securities, net of tax. There was no difference between the Company's net income and its total comprehensive income for the year ended January 31, 2000. For the year ended January 31, 2002, \$1,192,000 of unrealized gains were reclassified as realized gains and recognized in our accompanying statement of operations upon the sale of the related securities.

## MARVELL TECHNOLOGY GROUP LTD.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Accumulated other comprehensive income, as presented on the accompanying balance sheets, consists of unrealized gains and losses on available-for-sale securities, net of tax. As of January 31, 2002, accumulated other comprehensive income is presented net of income taxes of \$755,000.

**Net Income (Loss) Per Share**

The Company reports both basic net income (loss) per share, which is based upon the weighted average number of common shares outstanding excluding contingently issuable or returnable shares, and diluted net income (loss) per share, which is based on the weighted average number of common shares outstanding and dilutive potential common shares. The computations of basic and diluted net income (loss) per share are presented in the following table (in thousands, except per share amounts):

	Years Ended January 31,		
	2002	2001	2000
Numerator:			
Net income (loss)	\$(415,154)	\$(235,120)	\$13,070
Denominator:			
Weighted average shares of common stock outstanding	116,390	71,074	46,428
Less: unvested common shares subject to repurchase	(2,037)	(4,815)	(5,334)
Weighted average shares — basic	114,353	66,259	41,094
Effect of dilutive securities —			
Unvested common shares subject to repurchase	—	—	5,334
Convertible preferred stock and warrants	—	—	25,336
Common stock options and warrants	—	—	9,781
Weighted average shares — diluted	114,353	66,259	81,545
Basic net income (loss) per share	\$ (3.63)	\$ (3.55)	\$ 0.32
Diluted net income (loss) per share	\$ (3.63)	\$ (3.55)	\$ 0.16

Options to purchase 21,104,297 common shares at a weighted average exercise price of \$14.33 per share and 2,036,569 common shares subject to repurchase by the Company have been excluded from the computation of diluted net loss per share for the year ended January 31, 2002 as their effect would have been anti-dilutive.

**Recent Accounting Pronouncements**

In July 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 141 ("SFAS 141"), Business Combinations. SFAS 141 requires the purchase method of accounting for business combinations initiated after June 30, 2001 and eliminates the pooling-of-interests method. The Company adopted SFAS 141 on July 1, 2001, and the adoption did not have a significant impact on its financial position or results of operations.

In July 2001, the FASB issued Statement of Financial Accounting Standards No. 142 ("SFAS 142"), Goodwill and Other Intangible Assets, which is effective for fiscal years beginning after December 15, 2001. SFAS 142 requires, among other things, the discontinuance of goodwill amortization, the reclassification of certain existing recognized intangibles into goodwill, reassessment of the useful lives of existing recognized intangibles, reclassification of certain intangibles out of previously reported goodwill and the testing for impairment of existing goodwill and other intangibles. The Company adopted SFAS 142 in February 2002. As

MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

a result of the adoption, beginning with the first quarter of fiscal 2003 the Company has discontinued the amortization of goodwill. Goodwill amortization expense was \$334.8 million for the year ended January 31, 2002. The Company also reclassified the carrying value of the acquired workforce of \$10.4 million into goodwill because this intangible asset did not arise from contractual or other legal rights and cannot be separated from the acquired entity and sold, transferred, licensed, rented or exchanged. Amortization of the acquired workforce was \$2.1 million for the year ended January 31, 2002. Also as part of the adoption of SFAS 142, the Company reassessed the useful lives of its two remaining acquisition-related intangible assets, developed technology and trade name, and determined that the useful life of the Galileo trade name should be five years from the date of acquisition instead of its current estimated useful life of ten years. This change in useful life, which was based on the Company's expected future use of the Galileo trade name in its selling and marketing activities as well as its expected contribution to future cash flows, will increase the Company's trade name amortization expense to \$7.5 million per year beginning in fiscal 2003 compared to the \$3.3 million it recorded in fiscal 2002. Upon adoption, the Company is required to perform the first step of the two-step goodwill impairment test prescribed by SFAS 142. The Company has not yet completed this analysis and expects to complete it within the required time frame of the first six months of fiscal 2003.

In October 2001, the FASB issued Statement of Financial Accounting Standards No. 144 ("SFAS 144"), Accounting for the Impairment or Disposal of Long-Lived Assets, which is effective for fiscal years beginning after December 15, 2001. SFAS 144 supercedes SFAS 121, Accounting for the Impairment of Long-lived Assets and Assets to be Disposed Of, and certain provisions of Accounting Principles Board Opinion No. 30, Reporting the Results of Operations- Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions. SFAS 144 requires that long-lived assets to be disposed of by sale, including discontinued operations, be measured at the lower of carrying amount or fair value less cost to sell, whether reported in continuing operations or in discontinued operations. SFAS 144 also broadens the reporting requirements of discontinued operations to include all components of an entity that have operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the rest of the entity. The Company adopted SFAS 144 on February 1, 2002, and the adoption did not have a significant impact on the Company's financial position or results of operations.

In November 2001, the FASB Emerging Issues Task Force (EITF) reached a consensus on EITF Issue 01-09, Accounting for Consideration Given by a Vendor to a Customer or a Reseller of the Vendor's Products, which is a codification of EITF 00-14, 00-22 and 00-25. This issue presumes that consideration from a vendor to a customer or reseller of the vendor's products to be a reduction of the selling prices of the vendor's products and, therefore, should be characterized as a reduction of revenue when recognized in the vendor's income statement and could lead to negative revenue under certain circumstances. Revenue reduction is required unless consideration relates to a separate identifiable benefit and the benefit's fair value can be established. This issue should be applied no later than in annual or interim financial statements for periods beginning after December 15, 2001, which is our first quarter ended May 4, 2002. Upon adoption we are required to reclassify all prior period amounts to conform to the current period presentation. We do not believe the adoption of this standard will have a material impact on our reported results.

**Note 2 — Acquisition:**

Effective January 21, 2001, the Company acquired Galileo Technology Ltd. in a stock-for-stock transaction. Galileo develops high-performance communications internetworking and switching products for the broadband communications market. The acquisition has been accounted for using the purchase method of accounting, and the operating results of Galileo have been included in the Company's consolidated financial statements from the date of acquisition. The total purchase price for this acquisition was approximately \$2.5 billion. The purchase price was allocated to the tangible and intangible assets acquired and liabilities assumed based upon their respective fair values at the acquisition date. The purchase price consisted of

**MARVELL TECHNOLOGY GROUP LTD.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

29,110,455 shares of the Company's common stock with an estimated fair value of \$2.1 billion, options to purchase 6,833,032 shares of the Company's common stock with an estimated fair value of \$381.4 million and acquisition-related expenses of approximately \$16.1 million. The allocation of the purchase price is presented in the following table (in thousands):

Net tangible assets	\$ 125,710
Intangible assets:	
Goodwill	1,674,142
Developed technology	388,955
Trade name	33,241
Workforce	12,532
Deferred stock-based compensation	19,837
In-process research and development	234,874
	<hr/>
Total	\$2,489,291

The amounts allocated to goodwill and other intangible assets have so far been amortized on a straight-line basis over periods between five and ten years (see Note 1).

The amount allocated to deferred stock-based compensation relates to the intrinsic value of the unvested Galileo stock options assumed. The Galileo stock options generally vest over a period of four years. This deferred stock-based compensation is being amortized on an accelerated basis over the vesting period of the individual awards consistent with the method described in FIN 28 (see Note 1).

The amount allocated to in-process research and development was determined based on an appraisal completed by an independent third party using established valuation techniques in the high-technology industry and was expensed upon acquisition because technological feasibility had not been established and no future alternative uses existed. The fair values of Galileo's in-process research and development ("IPRD"), as well as their developed technologies, were determined using the income approach, which discounts expected future cash flows to present value. The discount rates used in the present value calculations were derived from a weighted-average cost of capital analysis and venture capital surveys, adjusted upward to reflect additional risks inherent in the development life cycle. A discount rate of 16.5% was used for developed technology, and rates between 21.5% and 34.0% were used for IPRD, depending on the stage of completion of each technology.

The unaudited pro forma information below assumes that Galileo had been acquired at the beginning of fiscal 2000 and includes the effect of amortization of goodwill and other intangible assets from that date. The impact of charges for purchased in-process research and development has been excluded. This data is presented for informational purposes only and is not necessarily indicative of the results of future operations or the results that would have been achieved had the acquisition taken place on that date. The pro forma information is presented in the following table (in thousands, except per share data):

	Years Ended January 31,	
	2001	2000
Net revenue	\$ 250,425	\$ 161,092
Net loss	\$(393,668)	\$(389,168)
Basic net loss per share	\$ (4.15)	\$ (5.54)
Diluted net loss per share	\$ (4.15)	\$ (5.54)

MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

**Note 3 — Available-for-Sale Securities:**

The amortized cost and fair value of available-for-sale securities at January 31, 2002 and 2001 are presented in the following tables (in thousands):

	January 31, 2002			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Corporate debt securities	\$100,232	\$ 461	\$ (738)	\$ 99,955
State, county and municipal debt securities	25,870	10	(97)	25,783
Foreign government debt securities	13,163	—	(92)	13,071
Equity securities	2,400	2,157	—	4,557
	<u>141,665</u>	<u>2,628</u>	<u>(927)</u>	<u>143,366</u>
Less amounts classified as cash equivalents	(7,605)	—	—	(7,605)
Short-term investments	<u>\$134,060</u>	<u>\$ 2,628</u>	<u>\$ (927)</u>	<u>\$135,761</u>

	January 31, 2001			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Corporate debt securities	\$ 41,832	\$ 3	\$ —	\$ 41,835
State, county and municipal debt securities	27,699	16	—	27,715
Foreign government debt securities	13,888	—	—	13,888
	<u>83,419</u>	<u>19</u>	<u>—</u>	<u>83,438</u>
Less amounts classified as cash equivalents	(43,503)	—	—	(43,503)
Short-term investments	<u>\$ 39,916</u>	<u>\$ 19</u>	<u>\$ —</u>	<u>\$ 39,935</u>

The contractual maturities of available-for-sale debt securities classified as short-term investments at January 31, 2002 are presented in the following table (in thousands):

	Amortized Cost	Estimated Fair Value
Due in one year or less	\$ 26,557	\$ 26,649
Due between one and four years	105,103	104,555
	<u>\$131,660</u>	<u>\$131,204</u>

## MARVELL TECHNOLOGY GROUP LTD.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## Note 4 — Balance Sheet Details (in thousands):

	January 31,	
	2002	2001
<b>Inventory:</b>		
Work-in-process	\$ 16,727	\$ 15,530
Finished goods	6,873	15,394
	<u>\$ 23,600</u>	<u>\$ 30,924</u>
<b>Property and equipment:</b>		
Machinery and equipment	\$ 38,621	\$ 21,631
Computer software	25,019	13,605
Furniture and fixtures	8,154	6,119
Leasehold improvements	13,940	7,582
	<u>85,734</u>	<u>48,937</u>
Less: Accumulated depreciation and amortization	(32,810)	(17,753)
	<u>\$ 52,924</u>	<u>\$ 31,184</u>
<b>Goodwill and intangible assets:</b>		
Goodwill	\$1,672,075	\$1,674,142
Developed technology	388,955	388,955
Trade name	33,241	33,241
Workforce	12,532	12,532
	<u>2,106,803</u>	<u>2,108,870</u>
Less: Accumulated amortization	(426,063)	(8,031)
	<u>\$1,680,740</u>	<u>\$2,100,839</u>

Property and equipment included \$11,360 and \$133 of assets under capital lease at January 31, 2002 and 2001, respectively. Accumulated depreciation on these assets was \$95 and \$85 at January 31, 2002 and 2001, respectively.

## MARVELL TECHNOLOGY GROUP LTD.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

**Note 5 — Mandatorily Redeemable Convertible Preferred Stock:**

The following is a summary of activity in mandatorily redeemable convertible preferred stock (in thousands):

	Shares	Total Amount
Balance at January 31, 1999	5,881	\$ 17,524
Issuance of Series E Mandatorily Redeemable Convertible Preferred Stock	350	3,500
Issuance of Series C and Series D Mandatorily Redeemable Convertible Preferred Stock upon exercise of warrants	379	1,329
Balance at January 31, 2000	6,610	22,353
Issuance of Series D Mandatorily Redeemable Convertible Preferred Stock upon exercise of warrants	91	400
Conversion of Series A, Series B, Series C, Series D and Series E Mandatorily Redeemable Convertible Preferred Stock into common stock	(6,701)	(22,753)
Balance at January 31, 2001	—	\$ —

Effective upon the closing of the Company's initial public offering in June 2000, all outstanding shares of Series A, Series B, Series C, Series D and Series E were automatically converted into a total of 26,804,920 shares of common stock.

**Note 6 — Warrants:**

In connection with the issuance of Series C, the Company issued warrants to purchase 471,428 shares of Series C at \$3.50 per share. Warrants to purchase 377,142 shares of Series C were exercised in April and May 1999, and the remaining 94,286 warrants expired during fiscal 2000.

During fiscal 1998, in connection with the issuance of Series D, the Company received bridge financing of approximately \$2,200,000 for which it issued warrants to purchase 93,473 shares of Series D at \$4.33 per share. The Company valued the warrants under the "Black-Scholes" formula at approximately \$84,000. The warrant value was recorded as interest expense. Warrants to purchase 2,118 shares of Series D were exercised during fiscal 2000, and warrants to purchase the remaining 91,355 shares of Series D were exercised during fiscal 2001.

During fiscal 1999, in connection with the Company's Loan and Security Agreement with a bank, the Company issued warrants to purchase 45,000 shares of Series D at \$4.33 per share which were exercisable on a net basis. The Company valued the warrants under the "Black-Scholes" formula at approximately \$66,000. The warrant value was recorded as interest expense. Upon the closing of the Company's initial public offering, these warrants converted into warrants to purchase 180,000 shares of common stock at \$1.0825 per share. These warrants were exercised on a net basis for 172,947 shares of common stock in fiscal 2001.

In July 1999, in connection with the Company's Loan and Security Agreement with a bank, the Company issued warrants to purchase 60,000 shares of common stock at \$1.50 per share which were exercisable on a net basis. The Company valued the warrants under the "Black-Scholes" formula at approximately \$23,000. The warrant value was recorded as interest expense. These warrants were exercised on a net basis for 56,742 shares of common stock in fiscal 2001.

MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

**Note 7 — Shareholders' Equity:**

***Preferred Stock***

As of January 31, 2002, the Company is authorized to issue 8,000,000 shares of \$0.002 par value preferred stock. The Company has the authority to issue undesignated preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption and liquidation preferences. As of January 31, 2002 and 2001, no shares of preferred stock were outstanding.

***Common Stock***

As of January 31, 2002, the Company is authorized to issue 242,000,000 shares of \$0.002 par value common stock. On March 17, 2000, the Company's shareholders approved two 100% common stock dividends. All references throughout the consolidated financial statements and footnotes to numbers of shares, per share amounts and stock option data have been restated to reflect the common stock dividends.

***1995 Stock Option Plan***

In April 1995, the Company adopted the 1995 Stock Option Plan (the "Option Plan"). The Option Plan, as amended, had 38,268,553 shares of common stock reserved for issuance thereunder as of January 31, 2002. The Option Plan allows for an annual increase in shares reserved for issuance equal to the lesser of (i) 10,000,000 shares, (ii) 5.0% of the outstanding shares of capital stock on such date, or (iii) an amount of shares determined by the Board of Directors. The Option Plan allows for the issuance of incentive and nonqualified stock options to employees and consultants of the Company.

Options granted under the Option Plan generally have a term of ten years and generally must be issued at prices not less than 100% and 85% for incentive and nonqualified stock options, respectively, of the fair market value of the stock on the date of grant. Incentive stock options granted to shareholders who own greater than 10% of the outstanding stock are for periods not to exceed five years and must be issued at prices not less than 110% of the fair market value of the stock on the date of grant. The options vest 20% one year after the vesting commencement date, and the remaining shares vest one-sixtieth per month over the remaining forty-eight months. Options granted under the Option Plan prior to March 1, 2000 may be exercised prior to vesting. The Company has the right to repurchase such shares at their original purchase price if the optionee is terminated from service prior to vesting. Such right expires as the options vest over a five-year period. Options granted under the Option Plan subsequent to March 1, 2000 may only be exercised upon or after vesting.

***1997 Directors' Stock Option Plan***

In August 1997, the Company adopted the 1997 Directors' Stock Option Plan (the "Directors' Plan"). The Directors' Plan has 900,000 shares of common stock reserved thereunder. Under the Directors' Plan, an outside director is granted 30,000 options upon appointment to the Board of Directors. These options vest 20% one year after the vesting commencement date and remaining shares vest one-sixtieth per month over the remaining forty-eight months. An outside director is also granted 6,000 options on the date of each annual meeting of the shareholders. These options vest one-twelfth per month over twelve months after the fourth anniversary of the vesting commencement date. Options granted under the Directors' Plan may be exercised prior to vesting. The Company has the right to repurchase such shares at their original purchase price if the director is terminated or resigns from the Board of Directors prior to vesting. Such right expires as the options vest over a five-year period.

MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

**Other Stock Option Arrangements**

In October 1995, the Company granted to a director nonqualified stock options to purchase 1,500,000 shares of common stock at \$0.0333 per share. These options vested ratably over a five year vesting period. The options were exercisable prior to vesting but would remain subject to repurchase until vested. These options were exercised in October 1995 and are fully vested as of January 31, 2002. In July 1996, the Company granted to the same director nonqualified stock options to purchase 1,500,000 shares of common stock at \$0.0367 per share. These options vested 20% one year after the date of grant, and the remaining shares vested one-sixtieth per month over the following forty-eight months. These options are fully vested and exercisable as of January 31, 2002.

In January 1998, the Company granted to a director nonqualified stock options to purchase 450,000 shares of common stock at \$0.25 per share. The options vest 20% one year after the vesting commencement date, and the remaining shares vest one-sixtieth per month over the remaining forty-eight months. The options may be exercised prior to vesting but will remain subject to repurchase until vested. The options were exercised in March 2000.

**Combined Option Plan Activity**

The following table summarizes the activity under the Option Plan, the Directors' Plan and other stock option arrangements:

	Shares Available	Options Outstanding	Weighted Average Exercise Price
	(In thousands)		
Balance at January 31, 1999	5,358	12,896	\$ 0.28
Additional shares authorized	3,600	—	—
Options granted	(5,289)	5,289	\$ 1.80
Options canceled	1,363	(1,363)	\$ 0.39
Shares repurchased	51	—	\$ 0.66
Options exercised	—	(4,437)	\$ 0.44
Balance at January 31, 2000	5,083	12,385	\$ 0.86
Additional shares authorized	10,601	—	—
Options granted and assumed	(14,167)	14,167	\$19.17
Options canceled	842	(842)	\$ 7.33
Shares repurchased	1,156	—	\$ 0.32
Options exercised	—	(4,468)	\$ 0.85
Balance at January 31, 2001	3,515	21,242	\$12.82
Additional shares authorized	5,000	—	—
Options granted	(4,961)	4,961	\$17.52
Options canceled	1,318	(1,940)	\$15.80
Options exercised	—	(3,159)	\$ 8.30
Balance at January 31, 2002	4,872	21,104	\$14.33

**MARVELL TECHNOLOGY GROUP LTD.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

The following table summarizes information relating to stock options outstanding and exercisable under the Option Plan, the Directors' Plan and other stock option arrangements at January 31, 2002:

	Options Outstanding			Options Exercisable	
	Number Outstanding	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
	(In thousands)			(In thousands)	
Range of exercise prices:					
\$0.03 - \$1.24	3,904	5.36	\$ 0.27	3,904	\$ 0.27
\$1.25 - \$9.99	4,834	7.88	\$ 4.86	3,406	\$ 3.38
\$10.00 - \$15.19	3,781	8.49	\$11.61	788	\$11.26
\$15.20 - \$24.78	4,964	8.97	\$21.19	1,251	\$21.27
\$24.79 - \$93.88	3,621	8.60	\$35.55	1,181	\$35.14
	21,104			10,530	

In connection with the acquisition of Galileo Technology Ltd., the Company has assumed Galileo's stock option plans. Upon acquisition, a total of 6,833,032 shares of the Company's common stock were reserved for issuance under the assumed plans, and the related options are included in the preceding tables. These options will continue to be governed by the terms and conditions of the original option agreements which generally included a four-year vesting schedule and an eight to ten year option term.

At January 31, 2002, a total of 1,316,035 unvested shares remain subject to the Company's repurchase rights under the Option Plan and other stock option arrangements.

**2000 Employee Stock Purchase Plan**

In June 2000, the Company adopted the 2000 Employee Stock Purchase Plan (the "Purchase Plan"). The Purchase Plan had 1,500,000 shares of common stock reserved for issuance thereunder as of January 31, 2002. The Purchase Plan allows for an annual increase in shares reserved for issuance equal to the lesser of (i) 500,000 shares, (ii) 0.75% of the outstanding shares of capital stock on such date, or (iii) an amount of shares determined by the Board of Directors. Under the Purchase Plan, employees are granted the right to purchase shares of common stock at a price per share that is 85% of the lesser of the fair market value of the shares at (i) the participant's entry date into the two-year offering period, or (ii) the end of each six-month purchase period within the offering period. Participants purchase stock using payroll deductions, which may not exceed 20% of their total cash compensation. Offering and purchase periods begin on December 1 and June 1 of each year, with the exception that the first offering period of the Purchase Plan began on June 26, 2001, the date of the Company's initial public offering. During fiscal 2002, a total of 402,967 shares were issued under the Purchase Plan at a weighted-average price of \$15.18 per share, and during fiscal 2001, a total of 103,771 shares were issued under the Purchase Plan at a weighted-average price of \$12.75 per share. At January 31, 2002, 993,262 shares were available for future issuance under the Purchase Plan.

**Stock-Based Compensation**

The Company accounts for employee and director stock options in accordance with APB 25 and complies with the disclosure provisions of SFAS 123. The Company accounts for stock options issued to non-employees in accordance with the provisions of SFAS 123 and EITF 96-18. Under SFAS 123 and EITF 96-18, stock options issued to non-employees are accounted for at their fair value using the Black-Scholes valuation method. No deferred stock-based compensation was recorded during fiscal 2002. During fiscal 2001 and 2000, the Company recorded deferred stock-based compensation of approximately \$5,761,000 and \$13,852,000,

MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

respectively, related to stock options granted to employees and directors. Also during fiscal 2001, the Company recorded \$19,837,000 of deferred stock-based compensation relating to the assumed options of Galileo. Such deferred stock-based compensation is being amortized using an accelerated method over the remaining vesting periods of the options.

Had compensation expense for all the Company's stock options been determined based on the fair values, as prescribed by SFAS 123, the Company's net income (loss) would have been as follows (in thousands, except per share amounts):

	Years Ended January 31,		
	2002	2001	2000
Net income (loss):			
As reported	\$(415,154)	\$(235,120)	\$13,070
Pro forma	\$(465,375)	\$(242,762)	\$11,857
Basic net income (loss) per share:			
As reported	\$ (3.63)	\$ (3.55)	\$ 0.32
Pro forma	\$ (4.07)	\$ (3.66)	\$ 0.29
Diluted net income (loss) per share:			
As reported	\$ (3.63)	\$ (3.55)	\$ 0.16
Pro forma	\$ (4.07)	\$ (3.66)	\$ 0.15

For the purpose of the above SFAS 123 pro forma disclosure, the fair value of each stock option granted prior to the Company's initial public offering in June 2000 was estimated on the date of grant using the minimum value method, which does not consider stock price volatility, as prescribed by SFAS 123. Stock options granted subsequent to the Company's initial public offering have been valued using the Black-Scholes option pricing model. Among other things, the Black-Scholes model considers the expected volatility of the Company's stock price in arriving at an option valuation. The fair values of the Company's stock options granted in fiscal 2001 subsequent to the initial public offering were estimated using an expected volatility of 70%, and the fair values of the Company's stock options granted in fiscal 2002 were estimated using an expected volatility of 85%. The following table summarizes the estimated fair value of options granted and additional assumptions used in the SFAS 123 calculations:

	Stock Option Plans			ESPP	
	2002	2001	2000	2002	2001
Estimated fair value	\$10.49	\$7.80	\$2.96	\$8.46	\$5.06
Expected term (in years)	3.6	3.3	5.0	1.0	0.4
Risk-free interest rate	4.3%	6.3%	6.1%	5.0%	5.3%
Dividend yield	—	—	—	—	—

**Note 8 — Benefit Plan:**

The Company sponsors a 401(k) savings and investment plan which allows all employees to participate by making pre-tax contributions to the 401(k) plan ranging from 1% to 20% of eligible earnings. The Company may make discretionary contributions to the 401(k) plan upon approval by the Board of Directors. No Company contributions have been made to the 401(k) plan since inception. As of January 31, 2002, the 401(k) plan offers a diverse selection of 16 investment alternatives, representing all asset classes. Employees may not invest in the Company's common stock through the 401(k) plan.

## MARVELL TECHNOLOGY GROUP LTD.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## Note 9 — Income Taxes:

The provision for income taxes consists of the following (in thousands):

	Years Ended January 31,		
	2002	2001	2000
Current income tax expense:			
Federal	\$ 820	\$ 2,085	\$ 387
State	333	734	1
Foreign	7,671	1,211	4,582
Total current income tax expense	8,824	4,030	4,970
Deferred income tax expense (benefit):			
Federal	(3,672)	(1,107)	(380)
State	(525)	(584)	(234)
Foreign	(1,328)	—	—
Total deferred income tax expense (benefit)	(5,525)	(1,691)	(614)
Total provision for income taxes	\$ 3,299	\$ 2,339	\$ 4,356

Deferred tax assets (liabilities) consist of the following (in thousands):

	As of January 31,		
	2002	2001	2000
Deferred tax assets:			
Research and development credits	\$ 4,816	\$2,240	\$1,281
California investment credits	158	158	29
Reserves and accruals	6,971	1,320	324
Depreciation	52	44	—
Gross deferred tax assets	11,997	3,762	1,634
Valuation allowance	(2,710)	—	—
Total deferred tax assets	9,287	3,762	1,634
Total deferred tax liabilities	—	—	(178)
Net deferred tax assets	\$ 9,287	\$3,762	\$1,456

MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Reconciliation of the statutory federal income tax to the Company's effective tax:

	Years Ended January 31,		
	2002	2001	2000
Provision (benefit) at federal statutory rate	(34.0)%	(34.0)%	35.0%
Non-deductible in-process R&D	—	35.5	—
Non-deductible goodwill	34.4	—	—
Non-deductible stock-based compensation	1.3	1.2	4.4
Difference in U.S. and non-U.S. taxes	(2.1)	(2.1)	(10.6)
State taxes, net of federal benefit	(0.1)	(0.2)	(0.9)
General business credits	(0.1)	(0.5)	(3.0)
Other	1.4	1.1	0.1
Effective tax rate	0.8%	1.0%	25.0%

The U.S. and non-U.S. components of income (loss) before income taxes are (in thousands):

	Years Ended January 31,		
	2002	2001	2000
U.S. operations	\$ 4,100	\$ 2,743	\$ 1,222
Non-U.S. operations	(415,955)	(235,524)	16,204
	<u>\$(411,855)</u>	<u>\$(232,781)</u>	<u>\$17,426</u>

As of January 31, 2002, the Company had net operating loss carryforwards available to offset future taxable income of approximately \$14.6 million and \$7.6 million for U.S. Federal and State of California purposes, respectively. The Federal carryforwards will begin to expire in 2013, and the California carryforwards will begin to expire in 2006, if not utilized before these dates. These tax benefits are the result of the exercise of employee stock options and employee sales of incentive stock options during the disqualifying period. The benefit of these net operating losses will be an adjustment to goodwill when realized, as they result from the acquisition of Galileo. Additionally, the Company had Federal research tax credit carryforwards for U.S. Federal income tax return purposes of approximately \$2.6 million that expire through 2022. As of January 31, 2002, the Company had unused California research tax credits of approximately \$2.2 million that will carry forward indefinitely until utilized. Federal and state tax laws impose restriction on the utilization of tax credit carryforwards in the event of an "ownership change" as defined by the Internal Revenue Code.

The Company has an undertaking from the government of Bermuda that it will not be subject to tax on its income and capital gains in Bermuda until March 28, 2016; however, the Company is subject to United States federal income tax on income of its wholly-owned subsidiary, Marvell Semiconductor, Inc., and on any portion of its non-U.S. income which is considered effectively connected with the conduct of a trade or business within the United States.

Effective July 1, 1999, the Company's Singapore operations have been granted Pioneer Status, which could reduce the amount of Singapore taxes the Company will pay on certain non-investment income. This tax holiday is conditional upon the Company complying with certain conditions for minimum levels of investment, headcount and the nature of its activities at its Singapore operation. This tax holiday is effective through June 30, 2004.

As discussed in Note 1, on January 21, 2001, the Company acquired Galileo Technology Ltd. Galileo's Israeli operations have been granted Approved Enterprise Status by the Israeli government under the Law for the Encouragement of Capital Investments, 1959 (the "Investment Law"). The Approved Enterprise Status provides a tax holiday on undistributed income derived from operations within certain "development regions"

## MARVELL TECHNOLOGY GROUP LTD.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

in Israel. This tax holiday is conditional upon the Company fulfilling the conditions stipulated by the Investment Law, regulations published thereunder and the instruments of approval for the specific investment in Approved Enterprises. As the tax holidays expire, the Company expects that it will start paying income tax on its operations within these development regions. Some of the Company's regional tax holidays have already expired and it is currently paying income taxes in these regions.

**Note 10 — Commitments and Contingencies****Lease Commitments**

The Company leases its facilities under noncancelable operating leases and leases certain property and equipment under capital leases. Future minimum lease payments under the operating and capital leases as of January 31, 2002 are presented in the following table (in thousands):

Fiscal Year:	Operating Leases	Capital Leases
2003	\$ 8,119	\$ 1,550
2004	9,199	2,100
2005	9,736	2,400
2006	7,659	2,400
2007	2,033	2,450
Thereafter	5,816	1,950
Total future minimum lease payments	\$42,562	12,850
Less: amount representing interest		(1,794)
Present value of future minimum lease payments		11,056
Less: current portion		(1,039)
Long-term lease obligations		\$10,017

Rent expense on the operating leases for the years ended January 31, 2002, 2001 and 2000 was approximately \$5.1 million, \$2.4 million and \$900,000, respectively.

In October 2001, the Company entered into a lease agreement for a building in California consisting of approximately 213,000 square feet. The lease began on January 1, 2002 and continues through March 16, 2006. During the first quarter of fiscal 2003, the Company intends to consolidate its three existing facilities in California into this new building. The lease on one of the existing facilities expired in February 2002, but the Company has ongoing, non-cancelable leases for the two other facilities. The Company is currently attempting to secure subtenants for the remainder of its lease terms for these two facilities. If it is not successful in subleasing these two facilities at rates that will cover its lease cost, the Company will be required to record a period charge for the difference between the total actual or estimated sublease income and its lease cost. In addition, the Company will continue to be required to pay the full amount of its contracted lease payments while the facilities are vacant or while they are subleased at lesser rates. The future minimum lease payments for the two unoccupied facilities aggregated \$15.7 million and are included in the above lease commitment table.

**Purchase Commitments**

The Company's manufacturing relationships with its foundries allow for the cancellation of all outstanding purchase orders, but requires repayment of all expenses incurred through the date of cancellation. As of

**MARVELL TECHNOLOGY GROUP LTD.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

January 31, 2002, foundries had incurred approximately \$18.8 million of manufacturing expenses on the Company's outstanding purchase orders.

***Legal Proceedings***

On July 31, 2001, a putative class action suit was filed against two investment banks that participated in the underwriting of the Company's initial public offering, or IPO, on June 29, 2000. That lawsuit, which did not name the Company or any of its officers or directors as defendants, was filed in the United States District Court for the Southern District of New York. Plaintiffs allege that the underwriters received "excessive" and undisclosed commissions and entered into unlawful "tie-in" agreements with certain of their clients in violation of Section 10(b) of the Securities Exchange Act of 1934. Thereafter, on September 5, 2001, a second putative class action was filed in the Southern District of New York relating to the Company's IPO. In this second action, plaintiffs named three underwriters as defendants and also named as defendants the Company and two of its officers, one of whom is also a director. Relying on many of the same allegations contained in the initial complaint in which the Company was not named as a defendant, plaintiffs allege that the defendants violated various provisions of the Securities Act of 1933 and the Securities Exchange Act of 1934. In both actions, plaintiffs seek, among other items, unspecified damages, pre-judgment interest and reimbursement of attorneys' and experts' fees. These two actions relating to the Company's IPO have been consolidated with hundreds of other lawsuits filed by plaintiffs against approximately 40 underwriters and approximately 300 issuers across the United States. To date, there have been no significant developments in the consolidated litigation. It is expected that a small number of cases will be designated as "test cases" for purposes of initial challenges to the pleadings, which are not expected to be briefed, argued and decided before mid-2002. The Company believes that the claims asserted against it and its officers are without merit and intends to defend these claims vigorously. Based on currently available information, the Company does not believe that the ultimate disposition of the lawsuit naming the Company and its officers will have a material adverse impact on its business or financial condition.

On September 12, 2001, Jasmine Networks, Inc. ("Jasmine") filed a lawsuit in the Santa Clara County Superior Court asserting claims against the Company for improper use of information and technologies it received during negotiations regarding the potential acquisition of Jasmine by the Company. The lawsuit claims that the Company improperly used such information and technologies after signing a non-disclosure agreement with Jasmine. The Company believes the claims asserted against it are without merit and intends to defend these claims vigorously. Based on currently available information, the Company does not believe that the ultimate disposition of this lawsuit will have a material adverse impact on its business or financial condition.

The Company is also party to other claims and litigation proceedings arising in the normal course of business. Although the legal responsibility and financial impact with respect to such claims and litigation cannot currently be ascertained, the Company does not believe that these matters will result in the payment of monetary damages, net of any applicable insurance proceeds, that, in the aggregate, would be material in relation to the Company's consolidated financial position or results of operations.

**Note 11 — Segment and Geographic Information:**

The Company has adopted Statement of Financial Accounting Standards No. 131 "Disclosure about Segments of an Enterprise and Related Information" ("SFAS 131"). Based on its operating management and financial reporting structure, the Company has determined that it has one reportable business segment — the design, development and sale of integrated circuits.

**MARVELL TECHNOLOGY GROUP LTD.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

The following tables present net revenue and long-lived asset information based on geographic region. Net revenue is based on the destination of the shipments and long-lived assets are based on the physical location of the assets (in thousands):

Net Revenue:	Years Ended January 31,		
	2002	2001	2000
Japan	\$ 31,111	\$ 20,085	\$20,218
Philippines	45,230	9,778	7,351
Singapore	79,900	65,555	40,620
Taiwan	56,293	21,756	5,290
United States	37,519	11,486	404
Others	38,742	15,234	7,492
	<u>\$288,795</u>	<u>\$143,894</u>	<u>\$81,375</u>

Long-lived Assets:	As of January 31,	
	2002	2001
Bermuda	\$1,299,226	\$1,713,159
Israel	401,339	403,024
United States	41,541	17,629
Others	1,307	1,219
	<u>\$1,743,413</u>	<u>\$2,135,031</u>

The following table presents net revenues for groups of similar products (in thousands):

Net Revenue:	Years Ended January 31,		
	2002	2001	2000
Storage products	\$163,968	\$122,850	\$81,375
Communications products	124,827	21,044	—
	<u>\$288,795</u>	<u>\$143,894</u>	<u>\$81,375</u>

**Note 12 — Related Party Transaction:**

In October 2001, the Company entered into a lease agreement with a privately-held design technology firm for certain computer-aided design software. One of the officers of the design technology firm is the brother of an officer and director of the Company and is also a shareholder of the Company. The design technology firm was acquired by Cadence Design Systems in December 2001. Total principal and interest payments over the 6-year term of the lease will be \$13.2 million. The remaining lease payments as of January 31, 2002 are included in the capital lease commitment table in Note 10 to the Consolidated Financial Statements.

## MARVELL TECHNOLOGY GROUP LTD.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## Supplementary Data (Unaudited)

The following table presents our unaudited consolidated statements of operations data for each of the eight quarters in the period ended January 31, 2002. In our opinion, this information has been presented on the same basis as the audited consolidated financial statements included in a separate section of this report, and all necessary adjustments, consisting only of normal recurring adjustments, have been included in the amounts below to present fairly the unaudited quarterly results when read in conjunction with the audited consolidated financial statements and related notes. The operating results for any quarter should not be relied upon as necessarily indicative of results for any future period. We expect our quarterly operating results to fluctuate in future periods due to a variety of reasons, including those discussed in "Additional Factors That May Affect Future Results".

Fiscal 2002				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	(In thousands, except per share amounts)			
Net revenue	\$ 64,230	\$ 68,649	\$ 73,100	\$ 82,816
Gross profit	34,069	37,230	39,609	47,080
Net loss	(104,966)	(105,197)	(105,121)	(99,870)
Net loss per share:				
Basic	\$ (0.93)	\$ (0.93)	\$ (0.92)	\$ (0.86)
Diluted	\$ (0.93)	\$ (0.93)	\$ (0.92)	\$ (0.86)
	Fiscal 2001			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	(In thousands, except per share amounts)			
Net revenue	\$29,664	\$32,175	\$36,212	\$ 45,843
Gross profit	16,484	17,095	19,213	24,055
Net income (loss)	2,068	624	1,798	(239,610)
Net income (loss) per share:				
Basic	\$ 0.04	\$ 0.01	\$ 0.02	\$ (2.85)
Diluted	\$ 0.02	\$ 0.01	\$ 0.02	\$ (2.85)

In the fourth quarter of fiscal 2001, the Company acquired Galileo Technology Ltd. in a transaction recorded as a purchase. In connection with this acquisition, we recorded an in-process research and development charge of \$234.9 million and recorded goodwill and intangible assets of \$2.1 billion, which, prior to the adoption of SFAS 142, were all being amortized over their estimated economic lives by charges to the statement of operations. See "Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations" for a discussion of the impact of the adoption of SFAS 142, which was adopted in February 2002.

**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.**

Not applicable.

**PART III**

**Item 10. Directors and Executive Officers of the Registrant.**

Certain of the information required by this Item with respect to our executive officers is set forth under the caption "Management" in Part I. The remaining information required by Items 401 and 405 of Regulation S-K is set forth in our Definitive Proxy Statement in connection with our 2002 Annual General Meeting of Shareholders which will be filed with the Securities and Exchange Commission no later than 120 days after February 2, 2002. Our 2002 Proxy Statement, exclusive of the information set forth under the captions "Report of the Compensation Committee," "Report of the Audit Committee" and "Stock Price Performance Graph," is incorporated herein by this reference.

**Item 11. Executive Compensation.**

The information required by Item 402 of Regulation S-K is set forth in our 2002 Proxy Statement. Our 2002 Proxy Statement, exclusive of the information set forth under the captions "Report of the Compensation Committee," "Report of the Audit Committee" and "Stock Price Performance Graph," is incorporated herein by this reference.

**Item 12. Security Ownership of Certain Beneficial Owners and Management.**

The information required by Item 403 of Regulation S-K is set forth in our 2002 Proxy Statement. Our 2002 Proxy Statement, exclusive of the information set forth under the captions "Report of the Compensation Committee," "Report of the Audit Committee" and "Stock Price Performance Graph," is incorporated herein by this reference.

**Item 13. Certain Relationships and Related Transactions.**

The information required by Item 404 of Regulation S-K is set forth in our 2002 Proxy Statement. Our 2002 Proxy Statement, exclusive of the information set forth under the captions "Report of the Compensation Committee," "Report of the Audit Committee" and "Stock Price Performance Graph," is incorporated herein by this reference.

**PART IV**

**Item 14. Exhibits, Financial Statement Schedules, and Reports on Form 8-K.**

(a) The following documents are filed as part of this Annual Report on Form 10-K:

1. *Financial Statements:*

	<b>Page Reference</b>
Consolidated Balance Sheets as of January 31, 2002 and 2001	56
Consolidated Statements of Operations for the years ended January 31, 2002, 2001 and 2000	57
Consolidated Statements of Shareholders' Equity for the years ended January 31, 2002, 2001 and 2000	58
Consolidated Statements of Cash Flows for the years ended January 31, 2002, 2001 and 2000	59
Notes to Consolidated Financial Statements	60

[Table of Contents](#)

2. *Financial Statement Schedules:*

Schedules not listed above have been omitted because they are not applicable or required, or the information required to be set forth therein is included in the Consolidated Financial Statements or Notes thereto.

3. *Exhibits.*

See Item 14(c) below.

(b) *Reports on Form 8-K*

On November 15, 2001, we filed a current report on Form 8-K in connection with the issuance of a press release dated November 15, 2001 announcing our financial results for the third quarter of fiscal 2002.

(c) *Index to Exhibits*

See Index to Exhibits on pages 83-84.

(d) *Financial Statements Required by Regulation S-X which are excluded from the annual report to Shareholders by Rule 14a-3(b).*

Not applicable.



## INDEX TO EXHIBITS

Exhibit No.	Description
3.1	Memorandum of Association of the registrant, incorporated by reference to Exhibit 3.1 of the registrant's registration statement on Form S-1 (file no. 333-33086), as filed on March 23, 2000
3.2	Second Amended and Restated Bye-laws of the registrant, incorporated by reference to Appendix A of the registrant's Definitive Proxy Statement, as filed on May 21, 2001
4.1	Specimen common stock certificate of the registrant, incorporated by reference to Exhibit 4.1 of the registrant's registration statement on Form S-1/A (file no. 333-33086), as filed on May 5, 2000
10.1	Amended and Restated 1995 Stock Option Plan, incorporated by reference to Appendix B of the registrant's Definitive Proxy Statement, as filed on May 21, 2001
10.2	1997 Directors' Stock Option Plan, incorporated by reference to Exhibit 10.2 of the registrant's registration statement on Form S-1 (file no. 333-33086), as filed on March 23, 2000
10.3	2000 Employee Stock Purchase Plan, incorporated by reference to Exhibit 10.3 of the registrant's registration statement on Form S-1 (file no. 333-33086), as filed on March 23, 2000
10.4	Galileo Technology Ltd. 1997 Employees' Stock Option Plan, incorporated by reference to Exhibit 10.4 of the registrant's annual report on Form 10-K for the year ended January 27, 2001 as filed on April 27, 2001
10.5	Galileo Technology Ltd. 1997 GTI Stock Option Plan, incorporated by reference to Exhibit 10.5 of the registrant's annual report on Form 10-K for the year ended January 27, 2001 as filed on April 27, 2001
10.6	Sublease between Netscape Communications, Inc. and Marvell Semiconductor, Inc. dated October 1, 1998, incorporated by reference to Exhibit 10.4 of the registrant's registration statement on Form S-1 (file no. 333-33086), as filed on March 23, 2000
10.7	First Amendment to Sublease between Netscape Communications, Inc. and Marvell Semiconductor, Inc. dated October 1, 1999, incorporated by reference to Exhibit 10.5 of the registrant's registration statement on Form S-1 (file no. 333-33086), as filed on March 23, 2000
10.8	Investors Rights Agreement dated September 10, 1999, incorporated by reference to Exhibit 10.6 of the registrant's registration statement on Form S-1 (file no. 333-33086), as filed on March 23, 2000
10.9	Wafer Purchase Agreement by and between Marvell Technology Group Ltd. and Taiwan Semiconductor Manufacturing Corporation dated June 30, 1997, incorporated by reference to Exhibit 10.7 of the registrant's registration statement on Form S-1/A (file no. 333-33086), as filed on May 5, 2000
10.10	Master Development, Purchasing and License Agreement between Intel Corporation and Marvell Semiconductor, Inc., incorporated by reference to Exhibit 10.8 of the registrant's registration statement on Form S-1/A (file no. 333-33086), as filed on June 23, 2000 *
10.11	Lease Agreement dated June 1, 2000 by and between Marvell Semiconductor, Inc. and 525 Almanor LLC, incorporated by reference to Exhibit 10.9 of the registrant's quarterly report on Form 10-Q for the period ended July 29, 2000 as filed on September 12, 2000
10.12	Lease Agreement dated June 30, 2000 by and between Galileo Technology Ltd. and Zanker Development Co., incorporated by reference to Exhibit 10.12 of the registrant's annual report on Form 10-K for the year ended January 27, 2001 as filed on April 27, 2001
10.13	Technology License Agreement dated April 23, 2001 by and between Marvel International Limited and ARM Limited, incorporated by reference to Exhibit 10.13 of the registrant's quarterly report on Form 10-Q for the period ended April 28, 2001 as filed on June 12, 2001*
10.14	Amendment Number 2 to Master Development, Purchasing and License Agreement dated July 17, 2001 between Intel Corporation and Marvell Semiconductor, Inc., incorporated by reference to Exhibit 10.14 of the registrant's quarterly report on Form 10-Q for the period ended July 28, 2001 as filed on September 12, 2001*
10.15	Lease Agreement dated October 19, 2001 by and between Marvell Semiconductor, Inc. and Yahoo! Inc., incorporated by reference to Exhibit 10.15 of the registrant's quarterly report on Form 10-Q for the period ended October 27, 2001 as filed on December 7, 2001

[Table of Contents](#)

Exhibit No.	Description
21.1	Subsidiaries of the registrant
23.1	Consent of PricewaterhouseCoopers LLP, Independent Accountants

\* Certain portions of this exhibit have been omitted pursuant to request for confidential treatment granted by the Securities and Exchange Commission.

## SUBSIDIARIES OF MARVELL

Subsidiary -----	Jurisdiction of Organization -----
Galileo Technology Europe Ltd.	United Kingdom
Galileo Technology Ltd.	Israel
Marvell Asia Pte. Ltd.	Singapore
Marvell Europe B.V.	Netherlands
Marvell International Ltd.	Bermuda
Marvell Japan K.K.	Japan
Marvell Semiconductor, Inc.	California, United States
Marvell Taiwan Ltd.	Taiwan
Marvell Technology, Inc.	Delaware, United States
Marvell World Trade Ltd.	Barbados

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference, in the Registration Statements on Form S-8 (Nos. 333-56322, 333-55974, 333-54188, 333-40154 and 333-40152) of Marvell Technology Group Ltd., of our report dated February 27, 2002, relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

San Jose, California  
April 30, 2002