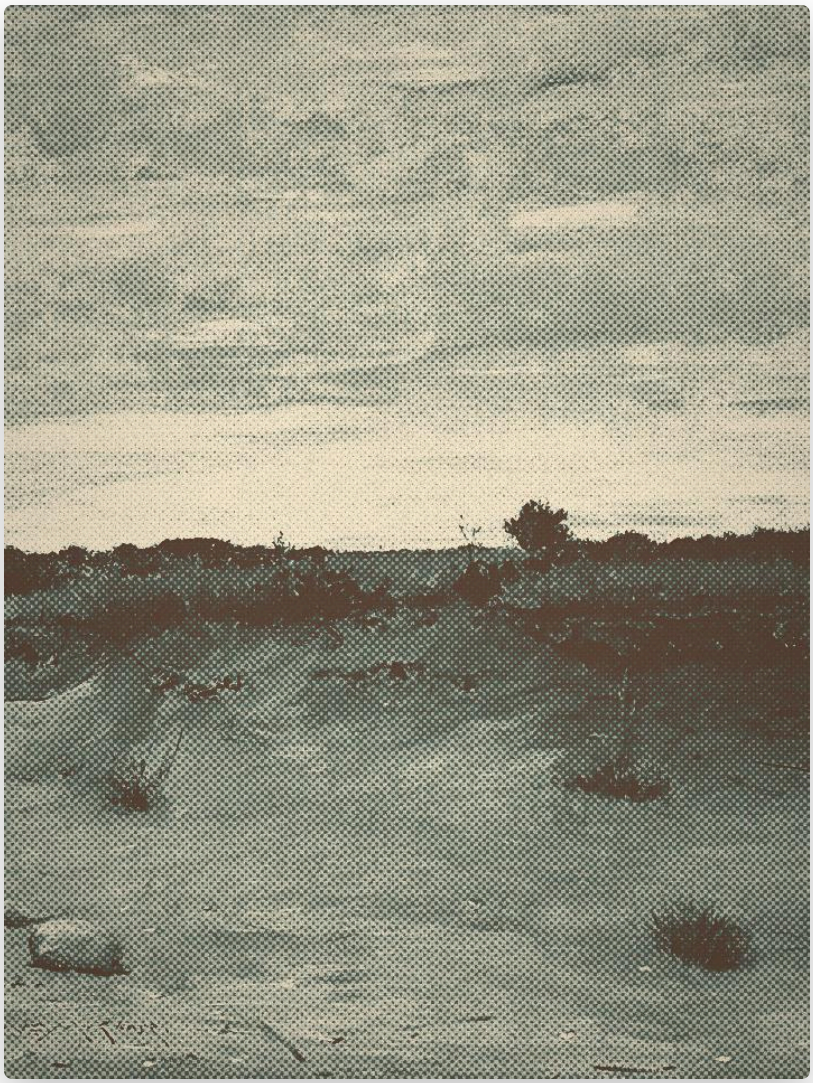
FORM S-1 · REGISTRATION STATEMENT

Tumbleweed Communications Corp

IPO priced 1999-08-05 · $12.00 a share · TMWD



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AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON JULY 11, 2000 REGISTRATION STATEMENT NO. 333-

SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

TUMBLEWEED COMMUNICATIONS CORP.

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE	7389	94-3336053
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

700 SAGINAW DRIVE REDWOOD CITY, CALIFORNIA 94063 (650) 216-2000 (ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER INCLUDING AREA CODE, OF REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES) BERNARD J. CASSIDY VICE PRESIDENT, GENERAL COUNSEL AND SECRETARY TUMBLEWEED COMMUNICATIONS CORP. 700 SAGINAW DRIVE REDWOOD CITY, CALIFORNIA 94063 (650) 216-2000 (NAME, ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER INCLUDING AREA CODE, OF AGENT FOR SERVICE)

COPY TO:

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APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: AS SOON AS PRACTICABLE AFTER THE EFFECTIVE DATE OF THIS REGISTRATION STATEMENT.

IF ANY OF THE SECURITIES BEING REGISTERED ON THIS FORM ARE TO BE OFFERED ON A DELAYED OR CONTINUOUS BASIS PURSUANT TO RULE 415 OF THE SECURITIES ACT OF 1933, CHECK THE FOLLOWING BOX. / / IF THIS FORM IS FILED TO REGISTER ADDITIONAL SECURITIES FOR AN OFFERING PURSUANT TO RULE 462(B) UNDER THE SECURITIES ACT, PLEASE CHECK THE FOLLOWING BOX AND LIST THE SECURITIES ACT REGISTRATION STATEMENT NUMBER OF THE EARLIER EFFECTIVE REGISTRATION STATEMENT FOR THE SAME OFFERING. / / IF THIS FORM IS A POST-EFFECTIVE AMENDMENT FILED PURSUANT TO RULE 462(C) UNDER THE SECURITIES ACT, CHECK THE FOLLOWING BOX AND LIST THE SECURITIES ACT REGISTRATION STATEMENT NUMBER OF THE EARLIER EFFECTIVE REGISTRATION STATEMENT FOR THE SAME OFFERING. / / IF THIS FORM IS A POST-EFFECTIVE AMENDMENT FILED PURSUANT TO RULE 462(D) UNDER THE SECURITIES ACT, CHECK THE FOLLOWING BOX AND LIST THE SECURITIES ACT REGISTRATION STATEMENT NUMBER OF THE EARLIER EFFECTIVE REGISTRATION STATEMENT FOR THE SAME OFFERING. / / IF DELIVERY OF THE PROSPECTUS IS EXPECTED TO BE MADE PURSUANT TO RULE 434, PLEASE CHECK THE FOLLOWING BOX. / /

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED(1)	PROPOSED MAXIMUM OFFERING PRICE PER UNIT(2)	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(2)	AMOUNT OF REGISTRATION FEE
COMMON STOCK, PAR VALUE $0.001.....	3,450,000	52.75	181,987,500	48,045

(1) INCLUDES 450,000 SHARES WHICH THE UNDERWRITERS HAVE THE OPTION TO PURCHASE TO COVER OVER ALLOTMENTS, IF ANY.

(2) ESTIMATED SOLELY FOR THE PURPOSE OF COMPUTING THE AMOUNT OF THE REGISTRATION FEE PURSUANT TO RULE 457(C), BASED ON THE AVERAGE OF THE REPORTED HIGH AND LOW SALES PRICES OF THE COMMON STOCK ON THE NASDAQ STOCK MARKET'S NATIONAL MARKET ON JULY 7, 2000.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE AN AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(A) OF THE SECURITIES ACT OF 1933 OR UNTIL THIS REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. WE MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING OFFICERS TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION, DATED JULY 11, 2000

SHARES

[LOGO]

COMMON STOCK

WE ARE SELLING 1,500,000 SHARES OF COMMON STOCK AND THE SELLING STOCKHOLDERS ARE SELLING 1,500,000 SHARES OF COMMON STOCK. WE WILL NOT RECEIVE ANY OF THE PROCEEDS FROM THE SHARES SOLD BY THE SELLING STOCKHOLDERS.

OUR COMMON STOCK IS LISTED FOR TRADING ON THE NASDAQ STOCK MARKET'S NATIONAL MARKET UNDER THE SYMBOL "TMWD." ON JULY 7, 2000, THE LAST REPORTED PRICE FOR OUR COMMON STOCK WAS $52.75 PER SHARE.

THE UNDERWRITERS HAVE AN OPTION TO PURCHASE FROM A SELLING STOCKHOLDER A MAXIMUM OF 450,000 ADDITIONAL SHARES TO COVER OVER-ALLOTMENTS OF SHARES.

Investing in Our Common Stock Involves Risks. See "Risk Factors" on Page 7.

	PRICE TO PUBLIC	UNDERWRITING DISCOUNTS AND COMMISSIONS	PROCEEDS TO TUMBLEWEED	PROCEEDS TO SELLING STOCKHOLDERS
Per Share	$	$	$	$
Total	$	$	$	$

Delivery of the shares of common stock will be made on or about , 2000.

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

Credit Suisse First Boston

Chase H&q

Dain Rauscher Wessels

U.s. Bancorp Piper Jaffray

Ing Barings

The date of this prospectus is , 2000.

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YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS DOCUMENT OR TO WHICH WE HAVE REFERRED YOU. WE HAVE NOT AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT. THIS DOCUMENT MAY ONLY BE USED WHERE IT IS LEGAL TO SELL THESE SECURITIES. THE INFORMATION IN THIS DOCUMENT MAY ONLY BE ACCURATE ON THE DATE OF THIS DOCUMENT.

Contact Information

Our principal executive offices are located at 700 Saginaw Drive, Redwood City, California 94063, and our telephone number is (650) 216-2000. Our web site is www.tumbleweed.com. The information on our web site does not constitute part of this document.

TUMBLEWEED-REGISTERED TRADEMARK-, WORLDSECURE-REGISTERED TRADEMARK- AND WORLDTALK-REGISTERED TRADEMARK- ARE REGISTERED TRADEMARKS AND INTEGRATED MESSAGING EXCHANGE-TM-, IME-TM-, MESSAGING MANAGEMENT SYSTEM (MMS)-TM-, WORLDSECURE/MAIL-TM-, SECURE INBOX-TM-, SECURE ENVELOPE-TM-, TUMBLEWEED IME PLATFORM-TM-, TUMBLEWEED IME APPLICATIONS-TM-, IME STATEMENTS-TM-, IME DEVELOPER-TM-, IME MESSENGER-TM-, IME PERSONALIZE-TM-, AND IME ALERT-TM- ARE TRADEMARKS OF TUMBLEWEED COMMUNICATIONS CORP. L2I-TM- IS A REGISTERED TRADEMARK OF INTERFACE SYSTEMS, INC.

Prospectus Summary

YOU SHOULD READ THE FOLLOWING SUMMARY TOGETHER WITH THE MORE DETAILED INFORMATION REGARDING OUR COMPANY AND THE SECURITIES BEING SOLD IN THIS OFFERING, TOGETHER WITH THE CONSOLIDATED FINANCIAL STATEMENTS, PRO FORMA INFORMATION AND RELATED NOTES APPEARING ELSEWHERE IN THIS PROSPECTUS.

Tumbleweed Communications Corp. is a leading provider of advanced messaging solutions for business communications. Our products and services enable businesses to extend existing networks and applications, creating secure online channels for interactive, business-critical communication. Tumbleweed Integrated Messaging Exchange, or Tumbleweed IME, is a platform and set of applications for creating secure communications channels between a business and its customers, partners and suppliers. Tumbleweed Messaging Management System, or Tumbleweed MMS, is a comprehensive solution that extends internal e-mail systems to the Internet through centralized management, policy enforcement, filtering and archiving. Used together, Tumbleweed IME and Tumbleweed MMS automatically apply security policies and redirect sensitive e-mail for secure, trackable delivery.

E-mail has quickly claimed its place as one of the most ubiquitous and utilized forms of business communications. International Data Corporation estimates that the number of electronic mailboxes will grow from approximately 315 million as of July 1999 to over 757 million by 2005. International Data Corporation further estimates that the number of e-mail messages sent worldwide will grow from 5.3 billion per day in 1999 to more than 26 billion per day by 2005. But many companies have not yet expanded their use of e-mail beyond internal communication or casual Internet correspondence. Proprietary groupware e-mail solutions are widely used by businesses within an enterprise, but their security and management features do not extend beyond the corporate network. Standard Internet e-mail systems have much broader reach, but lack the security, tracking and archiving functionality required to conduct transactions and deliver sensitive information online.

Our technology allows our customers to expand and exploit the power of e-mail, and to fully integrate their existing business processes with the Internet. Our solution enables enterprises to strengthen business relationships by proactively interacting with customers via personalized deliveries, alerts, updates and promotional information, all delivered through a secure communication channel that requires no proprietary desktop software regardless of which e-mail system the customer uses. In addition, we enable enterprises to define and enforce Internet communication policies, by automatically filtering and monitoring messaging traffic, and protecting internal networks from intrusion or misuse.

We sell our solution to enterprise customers and service providers such as American Express, Chase Manhattan Bank, Datek Online, the European Union's Joint Research Council, the Food and Drug Administration, Mitsui & Co., Northern Trust, Pitney Bowes, TD Waterhouse, Travelers Property Casualty, UPS and the United States Postal Service.

Our solution offers customers the following benefits:

- Comprehensive technology;

- Multi-level security;

- Easy, universal access;

- Highly-personalized and customized communication;

- Centralized policy enforcement and traffic management; and - A design that accommodates growth.

Our objective is to be the leading provider of secure online communication services. Key elements of our strategy include:

- Establish our products as the leading infrastructure and management solutions for online business communication;

- Increase recurring transaction-based revenue;

- Cultivate a channel of key service providers;

- Establish Tumbleweed IME as the international standard for secure online communication;

- Expand into accounts after first securing business-critical applications; and - Provide comprehensive professional services.

Recent Development

On June 28, 2000, we entered into a merger agreement providing for the acquisition of Interface Systems, Inc. Pursuant to the merger agreement, each outstanding share of Interface common stock will be converted into the right to receive 0.264 of a share of our common stock upon the closing of the merger, and we will assume all outstanding options and warrants of Interface. As of June 28, 2000, there were outstanding 4,719,675 shares of Interface common stock as well as options and warrants to

purchase an additional 886,018 shares of Interface common stock. The transaction, if completed, will be treated as a purchase for accounting purposes. Accordingly, we expect to expense up to $2.0 million of acquired in-process research and development, and to record unearned compensation and goodwill and other intangibles of approximately $63.3 million to be amortized over periods ranging from one to three years.

In this prospectus, we present pro forma financial statements based on a number of assumptions and adjustments to historical financial information, including adjustments for the divestiture of Interface businesses other than L2i. The pro forma condensed combined financial information does not purport to represent what the consolidated results of operations or financial condition of Tumbleweed would actually have been if the Interface acquisition had in fact occurred on such dates or the future consolidated results of operations or financial condition of Tumbleweed. Our expectation with respect to these amounts, adjustments and periods are preliminary and therefore subject to substantial subsequent adjustments. The acquisition is not expected to close until after the closing of this offering. The acquisition is subject to customary closing conditions, including approval by the shareholders of Interface. As a result, the acquisition may not close, and investors should not rely on the consummation of the acquisition in purchasing the shares offered hereby. The transaction will result in significant one-time charges, whether completed or not, and, if completed, will substantially increase our operating expenses in future periods.

Interface's L2i products and services simplify the process of transforming and using data found in legacy computer systems into electronic content that is easy to distribute and use online. The L2i products adapt legacy print streams and other data types to the Internet and intelligently convert them into formats such as Portable Document Format, HyperText Markup Language or eXtensible Markup Language for use online. The combination of L2i with Tumbleweed IME would give our customers a comprehensive, end-to-end solution for electronic statement presentment. We have announced our intention to divest Interface businesses other than L2i. These businesses comprised a substantial majority of the historical operating results of Interface, as more fully described in the pro forma financial statements included elsewhere in this prospectus.

The Offering

Common stock offered by Tumbleweed..... 1,500,000 shares Common stock offered by the selling stockholders..... 1,500,000 shares Common Stock outstanding after the offering..... 27,332,892 shares Use of proceeds..... We expect to use the net proceeds of this offering for working capital and other general corporate purposes. In addition, we may use a portion of the net proceeds to acquire complementary products, technologies or businesses.

Nasdaq National Market symbol..... TMWD Dividend policy..... We intend to retain all future earnings to fund the development and growth of our business. Therefore, we do not anticipate paying cash dividends on our common stock in the foreseeable future.

The common stock to be outstanding after the offering is based on shares outstanding as of March 31, 2000. The shares outstanding exclude:

- 4,496,008 shares of common stock issuable as of March 31, 2000 upon the exercise of outstanding stock options issued under our stock incentive plans at a weighted average exercise price of $18.03 per share;

- 3,389,088 shares of common stock reserved for future issuance as of July 10, 2000 under our stock incentive plans;

- 2,889,088 shares of common stock reserved for issuance under our employee stock purchase plan;

- 540,000 shares of common stock issuable as of March 31, 2000 upon the exercise of outstanding warrants at a weighted average exercise price of $27.04 per share;

- 1,245,994 shares of our common stock to be issued in connection with the closing of our pending acquisition of Interface based on shares outstanding as of June 28, 2000;

- 233,909 shares of our common stock issuable, after giving effect to the exchange ratio in the acquisition, upon the exercise of outstanding stock options, rights and warrants that we have agreed to assume upon the closing of our pending acquisition of Interface based on shares outstanding as of June 28, 2000; and - up to 314,231 shares of our common stock to be reserved for future issuance, after giving effect to the exchange ratio in the acquisition, under stock incentive plans we have agreed to assume upon closing of our pending acquisition of Interface, subject to approval by the Interface board of directors and shareholder of an increase in shares reserved under Interface's stock incentive plans.

EXCEPT AS OTHERWISE INDICATED, INFORMATION IN THIS PROSPECTUS DOES NOT GIVE EFFECT TO OUR PROPOSED ACQUISITION OF INTERFACE AND ASSUMES THAT THE UNDERWRITERS DO NOT EXERCISE THE OPTION GRANTED BY US TO PURCHASE ADDITIONAL SHARES OF COMMON STOCK IN THIS OFFERING.

Summary Consolidated Financial Data

The following financial data, other than the pro forma data, includes the financial data of Tumbleweed, after giving effect to the acquisition of Worldtalk, and excludes the financial data of Interface. Our pro forma consolidated statement of operations data gives effect to our pending acquisition of Interface (assuming the divestiture of the Interface businesses other than L2i) as if it occurred at the beginning of the pro forma period presented. The completion of this offering is not contingent on consummation of the acquisition, which is not expected to close until after the completion of this offering and is subject to customary closing conditions.

	YEAR ENDED DECEMBER 31,				THREE MONTHS ENDED MARCH 31,		
			1999			2000	
	1997	1998	ACTUAL	PRO FORMA	1999	ACTUAL	PRO FORMA
				(UNAUDITED)	(UNAUDITED)	(UNAUDITED)	

(UNAUDITED)

(IN THOUSANDS, EXCEPT PER SHARE DATA)

CONSOLIDATED STATEMENT OF OPERATIONS DATA:							
Revenue from continuing product lines.....	$ 4,476	$ 10,575	$ 15,284	$ 18,636	$ 3,269	$ 6,610	$ 7,931
Total revenue.....	12,056	15,463	16,756	20,108	3,907	6,610	7,931
Gross profit.....	7,946	11,213	11,853	14,685	3,003	4,362	5,402
Operating expenses(1).....	19,897	23,456	37,900	71,411	6,090	23,552	34,785
Operating loss.....	(11,951)	(12,243)	(26,047)	(56,726)	(3,087)	(19,190)	(29,383)
Net loss.....	(11,461)	(11,720)	(24,222)	(54,899)	(2,931)	(18,622)	(28,803)
Net loss per share--basic and diluted.....	(1.90)	(1.79)	(1.65)	(3.45)	(0.43)	(0.73)	(1.07)
Shares used in calculating basic and diluted loss per share.....	6,023	6,549	14,650	15,896	6,889	25,588	26,834

The pro forma balance sheet data gives effect to the pending acquisition of Interface (assuming the divestiture of the Interface businesses other than L2i) as if it had occurred on March 31, 2000. The actual, as adjusted balance sheet data excludes the pro forma data but gives effect to the sale of shares of common stock in this offering at an assumed public offering price of $52.75 per share, less estimated underwriting discounts and commissions and estimated offering expenses.

	THREE MONTHS ENDED MARCH 31, 2000		
	ACTUAL (UNAUDITED)	PRO FORMA (UNAUDITED) (IN THOUSANDS)	ACTUAL AS ADJUSTED(2) (UNAUDITED)
CONSOLIDATED BALANCE SHEET DATA:			
Cash and cash equivalents.....	$46,447	$ 47,276	119,627
Total assets.....	62,576	131,428	135,756
Long-term debt, excluding current installments.....	858	904	858
Total stockholders' equity.....	45,883	113,317	119,063

(1) Includes stock compensation expense of $288,000, $715,000, $3.5 million, $336,000 and $1.1 million for the years ended December 31, 1997, 1998 and 1999 and the three months ended March 31, 1999 and 2000, respectively.

(2) Our Pro Forma Consolidated Balance Sheet Data as of March 31, 2000, as adjusted, is as follows: Cash and cash equivalents of $120.5 million; Total assets of $204.6 million; Long-term debt of $904,000; and, Total stockholders' equity of $186.5 million.

Risk Factors

Risks Relating to Our Business

BECAUSE WE ARE IN AN EARLY STAGE OF DEVELOPMENT AND WE HAVE A HISTORY OF LOSSES, IT IS DIFFICULT TO EVALUATE OUR BUSINESS AND WE MAY FACE EXPENSES, DELAYS AND DIFFICULTIES.

We have only a limited operating history upon which an evaluation can be based. Accordingly, our prospects must be considered in light of the risks, expenses, delays and difficulties frequently encountered by companies in a similarly early stage of development, particularly companies engaged in new and rapidly evolving markets like secure online communication services. We incurred net losses of $18.6 million in the three months ended March 31, 2000 and $24.2 million in the year ended December 31, 1999. As of March 31, 2000, we had incurred cumulative net losses of $83.9 million.

We Anticipate Continued Losses.

Our success will depend in large part upon our ability to generate sufficient revenue to achieve profitability and to effectively maintain existing relationships and develop new relationships with customers and strategic partners. If we do not succeed, our revenue may not increase, and we may not achieve or maintain profitability on a timely basis or at all. In particular, we intend to expend significant financial and management resources on product development, sales and marketing, strategic relationships, technology and operating infrastructure. As a result, we expect to incur additional losses and continued negative cash flow from operations for the foreseeable future.

Our Quarterly Financial Results Are Subject to Significant Fluctuations.

As a result of our limited operating history and the emerging nature of the markets in which we compete, we are unable to accurately forecast our revenue or expenses. Our success is dependent upon our ability to enter into and maintain strategic relationships with customers and to develop and maintain volume usage of our products by our customers and their end-users. Our revenue has fluctuated and our quarterly operating results will continue to fluctuate based on the timing of the execution of new customer licenses in a given quarter. Our license revenue is comprised entirely of initial license and distribution fees. As a result, we will be required to regularly and increasingly sign additional customers with substantial initial license fees on a timely basis to realize comparable or increased license revenue.

Our services revenue historically has been comprised almost entirely of implementation, customization and consulting fees and support and maintenance fees, as actual transaction-based revenue to date has been minimal. As a result, we will be required to increase our services revenue in the short term

through custom development work and contractual transaction minimums and in the longer term through the increased transaction volume with the use of our services. Unless and until we have developed a significant and recurring transaction-based revenue stream from communications that are sent with our services, our revenue will continue to fluctuate significantly. Accordingly, we may be unable to achieve and recognize quarterly or annual revenue consistent with our historical operating results or expectations.

In addition, we have experienced, and expect to continue to experience, fluctuations in revenue and operating results from quarter to quarter for other reasons, including, but not limited to:

- the amount and timing of operating costs and capital expenditures relating to our business, operations and infrastructure, including our international operations;

- our ability to accurately estimate and control costs;

- the announcement or introduction of new or enhanced products and services in the secure online communications or document delivery markets; and - acquisitions that we complete or propose, including Worldtalk and Interface.

As a result of these factors, we believe that quarter-to-quarter comparisons of our revenue and operating results are not necessarily meaningful, and that these comparisons may not be accurate indicators of future performance. Because our staffing and operating expenses are based on anticipated revenue levels, and because a high percentage of our costs are fixed, small variations in the timing of the recognition of specific revenue could cause significant variations in operating results from quarter to quarter. If we are unable to adjust spending in a timely manner to compensate for any unexpected revenue shortfall, any significant revenue shortfall would likely have an immediate negative effect on our operating results. Moreover, our operating results in one or more future quarters may fail to meet the expectations of securities analysts or investors. If this occurs, we would expect to experience an immediate and significant decline in the trading price of our stock.

A LIMITED NUMBER OF CUSTOMERS ACCOUNT FOR A HIGH PERCENTAGE OF OUR REVENUE AND THE FAILURE TO MAINTAIN OR EXPAND THESE RELATIONSHIPS COULD HARM OUR BUSINESS.

The loss of one or more of our major customers, the failure to attract new customers on a timely basis, or a reduction in usage and revenue associated with the existing or proposed customers would harm our business and prospects. Five customers comprised approximately 30% of our revenue in the first quarter of 2000, and 24% of our revenue in fiscal 1999. We expect that a small number of customers will continue to account for a substantial portion of our revenue for the foreseeable future.

Our Service Provider Customers May Compete with Us or Fail to Promote Our Product.

To date, we have generated a significant amount of Tumbleweed IME revenue from contracts with a limited number of service provider customers, which use or intend to use our products for the communication of third-party documents and data. If these customers do not effectively promote the use of Tumbleweed IME to their end-users, the adoption of our services and the recognition of associated revenue could be limited. Because our contracts with our service provider customers are non-exclusive, these customers could elect to offer competing secure online communication services to their customers through our existing or future competitors. The service provider customers also may compete with our secure online communication services through their traditional physical delivery channels.

IF WE DO NOT SECURE KEY RELATIONSHIPS WITH ENTERPRISE CUSTOMERS, OUR ACCESS TO BROADER MARKETS WILL BE LIMITED.

Our enterprise customers, which use or intend to use our products to intelligently manage the incoming and outgoing online communications of their enterprises, are a significant source of our revenue. A key aspect of our strategy is to access target markets prior to adoption of alternative online distribution solutions by the larger participants in these markets. The failure to secure key relationships with new enterprise customers in targeted markets could limit or effectively preclude our entry into these target markets, which would harm our business and prospects.

CUSTOMERS IN A PRELIMINARY PHASE OF IMPLEMENTING OUR PRODUCTS MAY NOT PROCEED ON A TIMELY BASIS OR AT ALL.

Some of our customers are currently in a pre-production or pre-launch stage of implementing our products and may encounter delays or other problems in introducing them. A customer's decision not to do so or a delay in implementation could result in a delay or loss in related revenue or otherwise harm our businesses and prospects. We cannot predict when any customer that is currently in a pilot or preliminary phase will implement broader use of our services.

THE MARKETS FOR ENHANCED ONLINE COMMUNICATION SERVICES GENERALLY, AND FOR OUR PRODUCTS SPECIFICALLY, ARE NEW AND MAY NOT DEVELOP.

The market for our products and services is new and evolving rapidly. If the market for our products and services fails to develop and grow, or if our products and services do not gain broad market acceptance, our business and prospects will be harmed. In particular, our success will depend upon the adoption and use by current and potential customers and their end-users of secure online communication services. Our success will also depend upon acceptance of our technology as the standard for providing these services. The adoption and use of our products and services will involve changes in the manner in which businesses have traditionally exchanged information. In addition, sales and marketing of our products and services is to a large extent under the control of our customers. In some cases, our customers have little experience with products, services and technology like those

offered by us. Our ability to influence usage of our products and services by customers and end-users is limited. For example, the usage of Tumbleweed IME by the end-users of our service provider customers has been limited to date. We have spent, and intend to continue to spend, considerable resources educating potential customers and their end-users about the value of our products and services. It is difficult to assess, or to predict with any assurance, the present and future size of the potential market for our products and services, or its growth rate, if any. Moreover, we cannot predict whether our products and services will achieve any market acceptance. Our ability to achieve our goals also depends upon rapid market acceptance of future enhancements of our products. Any enhancement that is not favorably received by customers and end-users may not be profitable and, furthermore, could damage our reputation or brand name.

THE MARKETS WE ADDRESS ARE HIGHLY COMPETITIVE AND RAPIDLY CHANGING, AND WE MAY NOT BE ABLE TO COMPETE SUCCESSFULLY.

We may not be able to compete successfully against current and future competitors, and the competitive pressures we face could harm our business and prospects. Tumbleweed IME is an alternative to traditional mail and courier delivery services, such as those offered by Federal Express Corporation, UPS or the U.S. Postal Service, and to general purpose e-mail applications and services. As such, we compete with these options. Our direct competition comes from other secure online communication service providers of various sizes, some of which have products that are intended to compete directly with our products. Examples of secure online communication service providers include Automatic Data Processing, Inc., Critical Path, Inc., VeriCert.com, e-Parcel, LLC, PostX Corporation and ZixIt Corporation. In addition, companies with which we do not presently directly compete may become competitors in the future, either through the expansion of our products and services or through their product development in the area of secure online communication services. These companies could include America Online, Inc./Netscape Communications Corporation, International Business Machines Corporation/Lotus Development Corporation, Microsoft Corporation and VeriSign, Inc.

The market for our Tumbleweed MMS products is intensely competitive and subject to rapid changes. The enterprise security market is characterized by various products and solutions that compete with our Internet content security and policy management solutions. These include products offered by Content Technologies, Ltd. (which is partially owned by Integralis Technology, Ltd.) Trend Micro Incorporated, SRA International and TenFour AB. We anticipate competition in the future from other companies in the enterprise security market as the industry continues to grow.

The market for secure online communication services is new, rapidly evolving and highly competitive. The level of competition is likely to increase as current competitors improve their offerings and as new participants enter the market. Many of our current and potential competitors have longer operating histories, larger customer bases, greater brand recognition and significantly greater financial, marketing and other resources than us and may enter into strategic or commercial relationships with larger, more established and well-financed companies. Some of our competitors may be able to enter into these strategic or commercial relationships on more favorable terms. Additionally, these competitors have

research and development capabilities that may allow them to develop new or improved products that may compete with product lines we market and distribute. New technologies and the expansion of existing technologies may increase competitive pressures on us. Furthermore, one of our service provider customers currently offers to end-users the choice between Tumbleweed's products and the products of one of our competitors, and other current and future customers may also offer end-users a similar choice. Increased competition may result in reduced operating margins as well as loss of market share and brand recognition. We may be unable to compete successfully against current and future competitors, and competitive pressures faced by us could harm our business and prospects.

WE FACE TECHNICAL, OPERATIONAL AND STRATEGIC CHALLENGES THAT MAY PREVENT US FROM SUCCESSFULLY INTEGRATING WORLDTALK, OR ANY OTHER COMPANY WE MAY ACQUIRE.

The integration of the Worldtalk Communications Corporation business, including its technology, operations and personnel, has been and will be a complex, time consuming and expensive process that may disrupt our business if not completed in a timely and efficient manner. Additionally, the integration of any other company or business we may acquire in the future, including Interface, will be a complex, time consuming and expensive process that may disrupt our business if not completed in a timely and efficient manner. Whenever an acquisition is completed, we must operate as a combined organization utilizing common information and communication systems, operating procedures, financial controls and human resources practices. In particular, we are currently evaluating and upgrading our management information systems and establishing uniformity among our systems and those formerly operated by Worldtalk. We will be required to do the same for any subsequently acquired company, including Interface. We may encounter substantial difficulties, costs and delays involved in integrating the operations of the Worldtalk, Interface, or any other company, including:

- potential incompatibility of business cultures;

- perceived adverse changes in business focus;

- potential conflicts in customer, advertising or strategic relationships;

- potential failure to complete anticipated sales; and - the loss of key employees and diversion of the attention of management from other ongoing business concerns.

As a result, we may not be successful in integrating Worldtalk, Interface or any other business or technologies we acquire and may not achieve anticipated revenue and cost benefits. We also cannot guarantee that these acquisitions will result in sufficient revenues or earnings to justify our investment in, or expenses related to, this acquisition. Nor can we guarantee that any anticipated synergies will develop. If we fail to execute our acquisition strategy successfully for any reason, our business will suffer significantly.

Our Product Integration Efforts May Be Hindered by a Variety of Technical Factors.

We face certain risks associated with the ongoing integration of the Worldtalk technology and proposed integration of Interface technology. For example, because Worldtalk has historically based its products on an NT platform and we have created a platform-independent architecture for the Tumbleweed IME products, the integration of products from Worldtalk may result in unanticipated architectural incompatibilities that would require additional time and engineering resources to resolve. The loss of key engineering personnel from Worldtalk, Interface or any other entities we may acquire may increase the time and resources needed to resolve these and other technical integration issues. Our offices and Interface's offices are in different locations, which may create coordination issues and could increase employee turnover. In addition, the installation of integrated or complementary software products at customer sites may result in difficulties associated with customer-specific installation processes.

WE HAVE EXPERIENCED RAPID GROWTH WHICH HAS PLACED A STRAIN ON OUR RESOURCES AND OUR FAILURE TO MANAGE GROWTH COULD CAUSE OUR BUSINESS TO SUFFER.

We have expanded our operations rapidly and intend to continue this expansion. The number of our employees increased from 75 as of June 30, 1999 to 258 as of March 31, 2000. This expansion has placed, and is expected to continued to place, a significant strain on managerial and operational resources. To manage any further growth, we will need to improve or replace our existing operational, customer service and financial systems, procedures and controls. Any failure to properly manage these systems and procedural transitions could impair our ability to attract and service customers, and could cause us to incur higher operating costs and delays in the execution of our business plan. We will also need to continue the expansion of our operations and employee base. Our management may not be able to hire, train, retain, motivate and manage required personnel. In addition, our management may not be able to successfully identify, manage and exploit existing and potential market opportunities. If we cannot manage growth effectively, our business and operating results could suffer.

We Have a Lengthy Sales and Implementation Cycle Which Could Harm Our Business.

If we are unable to license our services to new customers on a timely basis or if our existing and proposed customers and their end-users suffer delays in the implementation and adoption of our services, our revenue may be limited and business and prospects may be harmed. Our customers must evaluate our technology and integrate our products and services into the products and services they provide. In addition, our customers may need to adopt a comprehensive sales, marketing and training program in order to effectively implement Tumbleweed IME. Finally, we must coordinate with our customers using our product for third-party communications in order to assist end-users in the

adoption of our products in order to generate usage fees. For these and other reasons, the cycle associated with establishing licenses in order to generate initial license fees and implementation of our products in order to generate material transaction-based services revenue can be lengthy. This cycle is also subject to a number of significant delays over which we have little or no control.

A Failure to Protect Our Intellectual Property May Significantly Harm Our Business.

We currently rely on a combination of patents, trade secrets, copyrights, trademarks and licenses, together with non-disclosure and confidentiality agreements to establish and protect our proprietary rights in our products. We hold certain patent rights with respect to some of our products and currently have a lawsuit pending against The docSpace Company, Inc. alleging infringement of one of our patents by docSpace. We have filed, and expect in the future to file, additional patent applications. Our existing patents or trademarks, as well as any future patents or trademarks obtained by us, may be challenged, invalidated or circumvented, or our competitors may independently develop or patent technologies that are substantially equivalent or superior to our technology. Further patent or trademark protection may not be obtained, in the United States or elsewhere, for our existing or new products, applications or services. In addition, further protection, if obtained, may not be effective. In some countries, meaningful patent or trademark protection is not available.

To date, we have not received any claims of infringement upon the proprietary rights of third parties. However, third parties could assert infringement claims against us in the future, and the cost of responding to such assertions, regardless of their validity, could be significant. In addition, such claims may be found to be valid and could result in awards against us, which could harm our business.

We also rely, to some extent, on unpatented trade secrets and other unpatented proprietary information. Our policy is to have employees sign confidentiality agreements, to have selected parties sign non-competition agreements and to have third parties sign non-disclosure agreements. Although we take precautionary measures to maintain our unpatented proprietary information, others may acquire equivalent information or otherwise gain access to or disclose our proprietary information and we may be unable to meaningfully protect our rights to our proprietary information.

Our Expansion Into International Markets May Be Difficult or Unprofitable.

We have recently begun to invest significant financial and managerial resources to expand our sales and marketing operations in international markets and have opened sales offices in Germany, the United Kingdom, Japan, France, Australia, The Netherlands and Sweden. In the first quarter of 2000 and in fiscal 1999, we derived 34% and 41% of our revenue from international operations. However, to date, we have limited experience in international operations and may not be able to compete effectively in

international markets. A key component of our long-term strategy is to further expand into international markets, and we must continue to devote substantial resources to our international operations in order to succeed in these markets. In this regard, we may encounter difficulties such as:

- unexpected changes in regulatory requirements and trade barriers applicable to the Internet or our business;

- challenges in staffing and managing foreign operations, including employment laws and practices as we expand into continental Europe;

- seasonal reductions in business activity and economic downturns, in particular, in Europe and Asia;

- longer payment cycles and problems in collecting accounts receivable;

- problems associated with the conversion of various European currencies into a single currency, the Euro;

- legal challenges or regulatory requirements related to the export or import of encryption technologies;

- differing technology standards; and - reduced protection for intellectual property rights in certain countries in which we operate or plan to operate.

In addition, our expansion into international markets will increasingly subject us to fluctuations in currency exchange rates. In the future, an increasing number of our contracts may be denominated in currencies other than U.S. dollars. We do not presently engage in hedging or similar transactions to protect us from currency fluctuations. Any of the foregoing difficulties of conducting business internationally could harm our international operations and, consequently, our business and prospects.

IF WE DO NOT PROVIDE ADEQUATE SUPPORT SERVICES TO OUR CUSTOMERS TO IMPLEMENT OUR PRODUCTS, WE MAY LOSE CUSTOMERS OR REALIZE LOWER TRANSACTION VOLUME.

Our professional services organization assists our customers in implementing our products through software installation, integration with existing customer systems, contract engineering, consulting and training. If the professional services organization does not adequately assess customer requirements or address technical problems, customers may seek to discontinue their relationships with us due to dissatisfaction with the product or our customer support. Furthermore, these customers may realize lower transaction volume than they could have otherwise achieved because they did not fully capitalize on the product in ways that could have been addressed by our professional services organization. Our products must be integrated with existing hardware and complex software products of our customers or other third parties, and our customers may not have significant experience with the implementation of products similar to ours. In addition, the provision of contract engineering and integration services is an increasingly important aspect of our strategy to strengthen customer loyalty to our product and company. Therefore, our business and future prospects significantly depend on the strength of our professional services organization.

PRODUCT PERFORMANCE PROBLEMS, SYSTEM FAILURES AND INTERNET PROBLEMS COULD SEVERELY DAMAGE OUR BUSINESS.

The ability of our customers to use Tumbleweed-based services depends on stable product performance, and the efficient and uninterrupted operation of the computer and communications hardware as well as the software and Internet network systems that they maintain. Although our ability to manage the effects of system failures which occur in computer hardware, software and network systems is limited, the occurrences of these failures could harm our reputation, business and prospects. The Internet has experienced a variety of outages and other delays as a result of damage to portions of its infrastructure, and the Internet could face similar outages and delays in the future. In addition, an increasing number of our customers require us to provide computer and communications hardware, software and Internet networking systems to them as an outsourced data center service. All data centers, whether hosted by us, our customers or by an independent third party to which we outsource this function, are vulnerable to damage or interruption from fire, flood, earthquake, power loss, telecommunications failure or other similar events.

IF OUR SOFTWARE CONTAINS ERRORS, WE MAY LOSE CUSTOMERS OR EXPERIENCE REDUCED MARKET ACCEPTANCE OF OUR PRODUCTS.

Our software products are inherently complex and may contain defects and errors that are detected only when the products are in use. In addition, some of our customers require or may require enhanced customization of our software for their specific needs, and these modifications may increase the likelihood of undetected defects or errors. Further, we often render implementation, consulting and other technical services, the performance of which typically involves working with sophisticated software, computing and networking systems, and we could fail to meet customer expectations as a result of any defects or errors. As a result, we may lose customers, customers may fail to implement our products more broadly within their organization and we may experience reduced market acceptance of our products. Our products are designed to facilitate the secure transmission of sensitive business information to specified parties outside the business over the internet. As a result, the reputation of our software products for providing good security is vital to their acceptance by customers. Our products may be vulnerable to break-ins, theft or other improper activity that could jeopardize the security of information for which we are responsible. Problems caused by product defects, failure to meet project milestones for services or security breaches could result in loss of or delay in revenue, loss of market share, failure to achieve market acceptance, diversion of research and development resources, harm to our reputation, or increased insurance, service and warranty costs. To address these problems, we may need to expend significant capital resources that may not have been budgeted.

IF WE LOSE THE SERVICES OF KEY MANAGEMENT PERSONNEL, INCLUDING CO-FOUNDERS OR KEY SALES EXECUTIVES, OUR ABILITY TO DEVELOP OUR BUSINESS AND SECURE CUSTOMER RELATIONSHIPS WILL SUFFER.

We are substantially dependent on the continued services and performance of our senior management and other key personnel. The loss of the services of any of our executive officers or other key employees, particularly our co-founders, Jeffrey C. Smith and Jean-Christophe D. Bandini, could

significantly delay or prevent the achievement of our development and strategic objectives. In addition, the loss of key members of our senior management, including Kerry S. Champion or Shomit A. Ghose, could harm our ability to develop our business. Moreover, the loss of key members of our sales organization, including Donald R. Gammon and Donald N. Taylor, could harm our ability to secure key relationships contemplated by our business plan. We do not have long-term employment agreements with any of our key personnel. The loss of services of any of our senior management or other key personnel could significantly harm our business and prospects.

OUR EFFORTS TO ESTABLISH, MAINTAIN AND STRENGTHEN OUR BRANDS WILL REQUIRE SIGNIFICANT EXPENDITURES AND MAY NOT BE SUCCESSFUL.

If the marketplace does not associate our brands with high quality Internet communication services, it may be more difficult for us to attract new customers or introduce future products and services. The market for our services is new. Therefore, our failure to establish brand recognition at this stage could harm our ability to compete in the future with other companies that successfully establish a brand name for their services. We must succeed in our marketing efforts, provide high quality services and increase our user base in order to build our brand awareness and differentiate our products from those of our competitors. These efforts have required significant expenditures to date. Moreover, we believe that these efforts will require substantial commitments of resources in the future as our brands become increasingly important to our overall strategy and as the market for our services grows.

Our Business Will Be Harmed If We Cannot Meet Future Capital Needs.

We will require substantial working capital to fund our business and achieve our goals. We have experienced negative cash flow from operations and we expect to continue to experience significant negative cash flow from operations for the foreseeable future. We believe that our existing capital resources, including the proceeds to us from this offering, will enable us to maintain our current and planned operations for at least the next 12 months. However, our capital requirements depend upon several factors, including:

- the rate of market acceptance of our products and services, including transaction volume;

- our ability to expand our customer base;

- our level of expenditures, including expenditures related to sales and marketing;

- the cost of service and technology upgrades; and - any acquisition we elect to pursue.

If we seek additional funding to meet our requirements, this funding may not be available on acceptable terms, if at all. If adequate funds are not available, we may be required to curtail significantly or defer one or more of our operating goals or programs. If we raise additional funds through the issuance of equity securities, the issuance could result in substantial dilution to existing shareholders. In addition, these equity securities may have rights, preferences or privileges senior to those of the

holders of our common stock. If we raise additional funds through the issuance of debt securities, these new securities would have rights, preferences and privileges senior to those of the holders of our common stock. The terms of these debt securities could also impose restrictions on our operations.

BECAUSE OUR PRODUCTS UTILIZE THE INTERNET, IF USE OF THE INTERNET DOES NOT INCREASE, THE LEVEL OF USE OF OUR PRODUCTS WILL SUFFER.

If the Internet and other products and services necessary for the utilization of our products are not sufficiently developed, fewer customers and end-users will use our products and our business will be harmed. In particular, the success of our products and services will depend on the development and maintenance of adequate Internet infrastructure, such as a reliable network backbone with the necessary speed, data capacity and other features demanded by users. Moreover, our success will also depend on the timely development of complementary products or services such as high speed modems for providing reliable Internet access and services and this may not occur. Because the online exchange of information is new and evolving, the Internet may not prove to be a viable platform for secure online communication services in the long term. The Internet has experienced, and is expected to continue to experience, significant growth in the numbers of users and amount of traffic. As the Internet continues to experience increased numbers of users and frequency of use, or if its users require increasingly more resources, the Internet infrastructure may not be able to support the demands placed on it. As a result, the performance or reliability of the Internet may be harmed. This in turn could decrease the level of Internet usage and also the level of utilization of our products and services.

ADDITIONAL GOVERNMENT REGULATION RELATING TO THE INTERNET MAY INCREASE COSTS OF DOING BUSINESS OR REQUIRE CHANGES IN OUR BUSINESS MODEL.

We are subject to regulations applicable to businesses generally and laws or regulations directly applicable to companies utilizing the Internet. Although there are currently few laws and regulations directly applicable to the Internet, it is possible that a number of laws and regulations may be adopted with respect to the Internet. These laws could cover issues like user privacy, pricing, content, intellectual property, distribution, taxation, antitrust, legal liability and characteristics and quality of products and services. The adoption of any additional laws or regulations could decrease the demand for our products and services and increase our cost of doing business or otherwise harm our business or prospects.

Moreover, the applicability to the Internet of existing laws in various jurisdictions governing issues like property ownership, sales and other taxes, libel and personal privacy is uncertain and may take years to resolve. For example, tax authorities in a number of states are currently reviewing the appropriate tax treatment of companies engaged in online commerce. New state tax regulations may subject us to additional state sales and income taxes. Any new legislation or regulation, the application of laws and regulations from jurisdictions whose laws do not currently apply to our business, or the application of existing laws and regulations to the Internet and commercial online services could harm our ability to conduct business and harm operating results.

OUR PRODUCTS ARE SUBJECT TO IMPORT AND EXPORT CONTROLS, AND WE MAY BE UNABLE TO OBTAIN NECESSARY APPROVALS.

Exports of software products utilizing encryption technology are generally restricted by the U.S. and various foreign governments. All cryptographic products require export licenses from certain U.S. government agencies. We have obtained approval to export products using up to 128-bit symmetric encryption and 1024-bit public key encryption, including IME Server, IME Desktop, IME Receive Applet, IME Remote API using OmniORD with SSL, MMS WorldWide/56 and MMS Strong WorldWide/128. We are not exporting other products and services that are subject to export control under U.S. law. However, the list of products and countries for which export approval is required, and the related regulatory policies, could be revised, and we may not be able to obtain necessary approval for the export of future products. The inability to obtain required approvals under these regulations could limit our ability to make international sales. Furthermore, competitors may also seek to obtain approvals to export products that could increase the amount of competition we face. Additionally, countries outside of the U.S. could impose regulatory restrictions impairing our ability to import our products into those countries.

Costs of Communicating Via the Internet Could Increase If Access Fees Are Imposed.

Certain local telephone carriers have asserted that the increasing popularity and use of the Internet has burdened the existing telecommunications infrastructure, and that many areas with high Internet use have begun to experience interruptions in telephone service. These carriers have petitioned the Federal Communications Commission to impose access fees on Internet service providers and online service providers. If these access fees are imposed, the costs of communicating on the Internet could increase substantially, potentially slowing the increasing use of the Internet. This could in turn decrease demand for our services or increase the costs of doing business.

We May Have Liability for Internet Content.

As a provider of Internet communication products and services, we face potential liability for defamation, negligence, copyright, patent or trademark infringement and other claims based on the nature and content of the materials transmitted online. Any imposition of liability, particularly liability that is not covered by insurance or is in excess of insurance coverage, could be costly and could require us to implement measures to reduce exposure to this liability. This may require us to expend substantial resources or to discontinue selected service or product offerings.

We do not and cannot screen all of the content generated by users of our product but may be exposed to liability with respect to this content. Furthermore, certain foreign governments, such as Germany, have enforced laws and regulations related to content distributed over the Internet that are more strict than those currently in place in the U.S. Other countries, such as China, regulate or prohibit the

transport of telephonic data in their territories. Failure to comply with regulations in a particular jurisdiction could result in fines or criminal penalties or the termination of service in one or more jurisdictions. Moreover, the increased attention focused on liability issues as a result of lawsuits and legislative proposals could impact the growth of Internet use. Liability insurance may not cover claims of these types, or may not be adequate to indemnify against all liability that may be imposed.

Risks Related to the Proposed Acquisition of Interface Systems Inc.

OUR PROPOSED ACQUISITION OF INTERFACE MAY NOT CLOSE AND OUR EXPECTATIONS MAY NOT BE REALIZED, WHICH COULD HARM OUR PROSPECTS.

In connection with our proposed acquisition of Interface, we expect to expense up to $2.0 million of acquired in-process research and development, and to record unearned compensation and goodwill and other intangibles of approximately $63.3 million to be amortized over periods ranging from one to three years. Our expectations with respect to these amounts, adjustments and periods are preliminary and therefore subject to substantial subsequent adjustment. Any such adjustment could adversely affect our historical or future operating results.

In this prospectus, we present pro forma financial statements based on a number of assumptions and adjustments to historical financial information, including adjustments for the divestiture of Interface businesses other than L2i. The pro forma condensed combined financial information does not purport to represent what the consolidated results of operations or financial condition of Tumbleweed would actually have been if the Interface acquisition had in fact occurred on such dates or the future consolidated results of operations or financial condition of Tumbleweed. In addition, the transaction will result in significant one-time charges, whether completed or not, and, if completed, will substantially increase our operating expenses in future periods. The acquisition is not expected to close until after the closing of this offering. The acquisition is subject to customary closing conditions, including approval by the shareholders of Interface. As a result, the acquisition may not close on a timely basis or at all, or may close on terms that differ from the terms currently proposed. Accordingly, investors should not rely on the consummation of the Interface acquisition as proposed or at all in purchasing the shares made available in their offering.

THE INTERFACE BUSINESSES OTHER THAN L2I COMPRISED A SUBSTANTIAL MAJORITY OF THE OPERATING RESULTS OF INTERFACE, AND WE INTEND TO DIVEST THESE BUSINESSES.

The Interface businesses other than L2i comprised a substantial majority of the historical operating results of Interface, as more fully described in the pro forma financial statements included elsewhere in this prospectus. Specifically, the revenue from these businesses comprised approximately $16.8 million or 83% of the revenues of Interface for the year ended September 30, 1999 and $1.7 million or 56% of the revenues of Interface for the three months ended March 31, 2000. In the event that these businesses are successfully divested, the operations of the ongoing business of Interface will be

substantially less than the historical operating results that include these businesses. We expect that the amount realized from the sale of these businesses, if successfully completed, will be limited and have assumed no gain or loss in our pro forma presentation. By contrast, if we do not successfully divest these businesses, we will be required to maintain or wind-down these businesses. The costs of doing so could be substantial and would adversely affect future operating results through ongoing realization of unanticipated expenses and one-time disposition charges.

WE MAY BE UNABLE TO SUCCESSFULLY INTEGRATE INTERFACE INTO OUR BUSINESS OR ACHIEVE THE EXPECTED BENEFITS OF THE INTERFACE ACQUISITION.

Our proposed acquisition of Interface, if completed, will require integrating our business with theirs, including integrating product lines, technologies and distinct corporate cultures. We may not be able to successfully assimilate the personnel, operations and customers of Interface into our business. Additionally, we may fail to achieve the anticipated synergies from the acquisition of Interface, including product development and other operational synergies. The integration process may further strain our existing financial and managerial controls and reporting systems and procedures. This may result in the diversion of management and financial resources from our core business objectives. We may not be able to retain various individuals who provide services to Interface that we intend to hire in connection with this acquisition. Our failure to successfully manage the Interface acquisition could seriously harm our operating results. In addition, the issuance of our shares of our common stock in connection with the closing of the Interface acquisition will result in dilution to existing stockholders.

Risks Related to This Offering

Future Sales of Common Stock Could Depress Our Stock Price.

We cannot predict if future sales of our common stock, or the availability of our common stock for sale, will depress the market price for our common stock or our ability to raise capital by offering equity securities. In particular, in the months of April and May 2000, Hikari Tsushin sold a total of approximately 2,363,000 shares and may choose to sell additional shares of our common stock. Sales of substantial amounts of common stock, or the perception that these sales could occur, may depress prevailing market prices for the common stock. Tumbleweed and its officers and directors have agreed, subject to customary exceptions, not to sell any shares of common stock for 90 days following the date of this prospectus without the consent of Credit Suisse First Boston. Hikari Tsushin has agreed to this same restriction for 30 days following the date of this prospectus. Credit Suisse First Boston may release shares subject to this agreement for sale into the public market or otherwise at any time without public notice.

INTERNET RELATED STOCK PRICES ARE ESPECIALLY VOLATILE AND THIS VOLATILITY MAY DEPRESS OUR STOCK PRICE.

The stock market has experienced significant price and volume fluctuations and the market prices of securities of technology companies, particularly Internet-related companies, have been highly volatile. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been instituted against companies. The institution of this type of litigation against us could result in substantial costs and a diversion of our management's attention and resources, which could harm our business and prospects.

OUR MANAGEMENT WILL BE ABLE TO SUBSTANTIALLY INFLUENCE CORPORATE EVENTS BECAUSE THEY WILL CONTINUE TO OWN A SIGNIFICANT PERCENTAGE OF OUR STOCK AFTER THE OFFERING.

Upon completion of this offering, our present directors, executive officers and principal stockholders as a group will beneficially own approximately 30.9% of the outstanding common stock, or 30.4% if the underwriters' over-allotment option is fully exercised. Accordingly, if all or particular stockholders were to act together, they would be able to exercise significant influence over or control the election of our board of directors, our management and policies and the outcome of particular corporate transactions or other matters submitted to our stockholders for approval, including mergers, consolidations and the sale of all or substantially all of our assets.

OUR CERTIFICATE OF INCORPORATION AND BYLAWS CONTAIN PROVISIONS THAT COULD DISCOURAGE OR PREVENT AN ACQUISITION OF TUMBLEWEED, WHICH COULD DEPRESS OUR STOCK PRICE.

Our certificate of incorporation and bylaws may inhibit changes of control that are not approved by our board of directors. These provisions could limit the price that investors might be willing to pay in the future for shares of our common stock. In particular, our certificate of incorporation provides for a classified board of directors and prohibits stockholder action by written consent. These provisions will require advance notice for nomination of directors and stockholders' proposals. In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law. In general, this law prevents a person who becomes the owner of 15% or more of the corporation's outstanding voting stock from engaging in specified business combinations for three years unless specified conditions are satisfied. In addition, our certificate of incorporation allows our board of directors to issue preferred stock without further stockholder approval. This could have the effect of delaying, deferring or preventing a change in control. The issuance of preferred stock also could effectively limit the voting power of the holders of our common stock. The provisions of our certificate of incorporation and bylaws, as well as provisions of Delaware law, may discourage or prevent an acquisition or disposition of our business.

Note on Forward-looking Statements

Discussions containing forward-looking statements may be found under the captions "Prospectus Summary." "Risk Factors," "Use of Proceeds," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Business" and elsewhere in this prospectus. These forward-

looking statements may include, but are not limited to, statements about our plans, objectives, expectations and intentions and other statements contained in this prospectus that are not historical facts. When used in this prospectus, the words "may," "will," "should," "could," "predicts," "potential," "continue," "expects," "anticipates," "future," "intends," "plans," "believes," "estimates" and similar expressions are generally intended to identify forward-looking statements. These forward-looking statements are based on current beliefs, expectations and assumptions and involve certain risks and uncertainties that could cause actual results, levels of activity, performance, achievements and events to differ materially from those implied by such forward-looking statements. These forward-looking statements are made as of the date of this prospectus. The forward looking-statements contained in this prospects are subject to the provisions of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. We disclaim any obligation to update these forward-looking statements or to explain the reasons why actual results may differ. The risks and uncertainties under the caption "Risk Factors" contained herein, among other things, should be considered in evaluating our prospects and future financial performance.

Use of Proceeds

We estimate that we will receive net proceeds from the sale of shares of our common stock in this offering of approximately $73.2 million, after deducting estimated underwriting discounts and commissions and estimated offering expenses. This net proceeds to the Company will not change if the underwriters exercise their over-allotment option. We will not receive any proceeds from the sale of shares by the selling stockholders. We expect to use the net proceeds from this offering for working capital and other general corporate purposes. In addition, we may use a portion of the net proceeds to acquire complementary products, technologies or businesses; however, we currently have no commitments or agreements with respect to any such transactions.

We will have significant discretion in the use of the net proceeds of this offering. Investors will be relying on the judgment of our management regarding the application of the proceeds of this offering. Pending use of the net proceeds as discussed above, we intend to invest these funds in short-term, interest-bearing, investment-grade obligations.

Price Range of Common Stock

Our common stock has been traded on the Nasdaq Stock Market's National Market under the symbol "TMWD" since August 6, 1999, the date or our initial public offering. The following table sets forth, for the periods indicated the high and low sales prices for our common stock as reported by the Nasdaq Stock Market's National Market:

Price Range High Low

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Third Quarter 1999 (beginning August 6, 1999).............  $  30.50   $  10.25
Fourth Quarter 1999.....................................  $  89.50   $  17.75
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First Quarter 2000	$ 136.00	$ 48.00
Second Quarter 2000	$ 112.00	$ 28.88
Third Quarter 2000 (through July 7, 2000)	$ 56.31	$ 56.81

The last reported sale for our common stock on the Nasdaq Stock Market's National Market was $52.75 per share on July 7, 2000. As of March 31, 2000, we estimate that there were approximately 382 holders of record of our common stock. This does not include the number of persons whose stock is in nominee or "street name" accounts through brokers.

Dividend Policy

We presently anticipate that we will retain any future earnings to finance the development and expansion of our business and provide working capital. Therefore, we do not anticipate any cash dividends on our common stock for the foreseeable future. The terms of our existing credit facility prohibit the payment of dividends in specified circumstances.

Capitalization

The following table sets forth the following information:

- our actual capitalization as of March 31, 2000; and - our actual, as adjusted capitalization giving effect to the sale of shares of common stock in this offering at an assumed public offering price of $52.75 per share, less estimated underwriting discounts and commissions and estimated offering expenses.

MARCH 31, 2000 ACTUAL ACTUAL AS ADJUSTED (IN THOUSANDS, EXCEPT SHARE DATA)

Long-term obligations, excluding current installments	$ 858	858
Stockholders' equity:		
Preferred Stock, $0.001 par value; 10,000,000 shares authorized, none issued and outstanding	--	--
Common stock, $0.001 par value 100,000,000 shares authorized, 25,832,892 shares issued and outstanding, actual; 27,332,892 shares issued and outstanding, actual as adjusted	26	27
Additional paid-in capital	134,764	207,943
Deferred compensation	(5,105)	(5,105)
Accumulated other comprehensive income	70	70
Accumulated deficit	(83,872)	(83,872)
Total stockholders' equity	45,883	119,063
Total capitalization	46,741	119,921

The shares of common stock outstanding in the actual, and actual as adjusted columns exclude:

- 4,496,008 shares of common stock issuable as of March 31, 2000 upon the exercise of outstanding stock options issued under our stock incentive plans at a weighted average exercise price of $18.03 per share;

- 3,389,088 shares of common stock reserved for future issuance as of July 10, 2000 under our stock incentive plans;

- 2,889,088 shares of common stock reserved for issuance under our employee stock purchase plan;

- 540,000 shares of common stock issuable as of March 31, 2000 upon the exercise of outstanding warrants at a weighted average exercise price of $27.04 per share;

- 1,245,994 shares of our common stock to be issued in connection with the closing of our pending acquisition of Interface based on the shares outstanding as of June 28, 2000;

- 233,909 shares of our common stock issuable, after giving effect to the exchange ratio in the acquisition, upon the exercise of outstanding stock options, rights, and warrants that we have agreed to assume upon the closing of our pending acquisition of Interface based on the shares outstanding as of June 28, 2000; and - up to 314,231 shares of our common stock to be reserved for future issuance, after giving effect to the exchange ratio in the acquisition, under stock incentive plans we have agreed to assume upon closing of our pending acquisition of Interface, subject to approval by the Interface board of directors and shareholders of an increase in shares reserved under Interface's stock incentive plans.

Our pro forma capitalization as of March 31, 2000, as adjusted to give effect to the proposed offering, is as follows: Deferred compensation of $7.4 million; Total stockholders' equity of $186.5 million; and Total capitalization of $187.4 million. The acquisition of Interface is not expected to close until after the closing of this offering. The acquisition is subject to customary closing conditions, including approval by the shareholders of Interface. As a result, the acquisition may not close, and investors should not rely on the consummation of the acquisition in purchasing the shares offered hereby.

Dilution

As of March 31, 2000 the net tangible book value of our common stock was approximately $45.8 million, or approximately $1.77 per share. Net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the number of shares of common stock outstanding. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately afterwards. After giving effect to our sale of 1,500,000 shares of common stock at the assumed public offering price and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable, our net tangible book value at March 31, 2000 would have been approximately $119.0 million, or $4.35 per share. This represents an immediate increase in net tangible book value of $2.58 per share to existing stockholders and immediate dilution in net tangible book value of $48.40 per share to new investors purchasing shares of common stock in this offering. The following table illustrates this dilution:

Assumed public offering price per share:		$52.75
Net tangible book value per share before this offering as of March 31, 2000	$1.77	
Increase per share attributable to new investors	$2.58	
Net tangible book value per share after this offering		4.35
Dilution in net tangible book value per share to new investors		$48.40

The foregoing table excludes outstanding warrants and options to purchase 3,929,088 shares of our common stock and outstanding options, rights and warrants to purchase 233,909 shares of our common stock upon the closing of our pending acquisition of Interface based on the shares outstanding as of June 28, 2000. Exercise of these warrants and options would result in additional dilution. The acquisition is not expected to close until after the closing of this offering. The acquisition is subject to customary closing conditions, including a vote by the shareholders of Interface. As a result, the acquisition may not close, and investors should not rely on the consummation of the Interface acquisition in purchasing the shares offered hereby.

On a pro forma basis as of March 31, 2000, after giving effect to the proposed acquisition of Interface and our sale of 1,500,000 shares of common stock offered by us in this prospectus at the assumed public offering price and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable, our pro forma as adjusted net tangible book value would have been approximately $124.9 million, or $4.37 per share. This represents an immediate increase in net tangible book value of $5.9 million to all existing investors together with new investors purchasing shares in this offering, and an immediate accretion in net tangible book value per share of $0.02 to all existing investors together with new investors purchasing shares in this offering.

Selected Consolidated Financial Data

The following selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this prospectus. The following financial data, other than the pro forma data, include the financial data of Tumbleweed, after giving effect to the acquisition of Worldtalk, and exclude the financial data of Interface. Our consolidated pro forma statements of operations data give effect to our pending acquisition of Interface (assuming the divestiture of the Interface businesses other than L2i) as if it occurred at the beginning of each of the pro forma periods presented by combining the results for the year ended December 31, 1999 of Tumbleweed with the results for the year ended September 30, 1999 of Interface and combining the results for the three months ended March 31, 2000 of Tumbleweed with the same period of Interface. The pro forma balance sheet data give effect to our pending acquisition of Interface (assuming the divestiture of the Interface businesses other than L2i) as if it had occurred on March 31, 2000. The acquisition is not expected to close until after the closing of this offering. The acquisition is subject to customary closing conditions, including approval by the shareholders of Interface. As a result, the acquisition may not close, and investors should not rely on the consummation of the Interface acquisition in purchasing the shares offered hereby. The statements of operations data for each of the years in the three-year period ended December 31, 1999 and the balance sheet data at December 31, 1998 and 1999, are derived from our consolidated financial statements that have been audited by KPMG LLP, independent certified public accountants, included elsewhere in this prospectus. The statements of operations data for the two years ended December 31, 1996 and the balance sheet data at December 31, 1995, 1996 and 1997 are derived from our audited financial statements that are not included in this prospectus. The statements of operations data for the

three months ended March 31, 1999 and 2000 and the balance sheet data at March 31, 2000, are derived from our unaudited consolidated financial statements included elsewhere in this prospectus. The pro forma statement of operations data for the year ended December 31, 1999 and the three months ended March 31, 2000 and as of March 31, 2000 are derived from the selected unaudited pro forma condensed combined financial information included elsewhere in this prospectus.

YEAR ENDED DECEMBER 31, 1999 1995 1996 1997 1998 ACTUAL PRO FORMA (UNAUDITED) (IN THOUSANDS, EXCEPT PER SHARE DATA)

HISTORICAL CONSOLIDATED STATEMENT OF OPERATIONS DATA:						
Revenue from continuing product lines	$ 818	$ 597	$ 4,476	$ 10,575	$ 15,284	$ 18,636
Gross profit(1)	5,463	11,225	7,946	11,213	11,853	14,685
Operating expenses(2)	9,157	18,226	19,897	23,456	37,900	71,411
Operating loss	(3,694)	(7,001)	(11,951)	(12,243)	(26,047)	(56,726)
Net loss	(3,656)	(6,420)	(11,461)	(11,720)	(24,222)	(54,899)
Net loss per share-basic and diluted	--	(1.15)	(1.90)	(1.79)	(1.65)	$ (3.45)
Shares used in calculating basic and diluted loss per share	--	5,592	6,023	6,549	14,650	15,896

	THREE MONTHS ENDED MARCH 31,		
	1999	2000	
		ACTUAL	PRO FORMA
	(UNAUDITED)	(UNAUDITED)	(UNAUDITED)
	(IN THOUSANDS, EXCEPT PER SHARE DATA)		
HISTORICAL CONSOLIDATED STATEMENT OF OPERATIONS DATA:			
Revenue from continuing product lines	$ 3,269	$ 6,610	$ 7,931
Gross profit(1)	3,003	4,362	5,402
Operating expenses(2)	6,090	23,552	34,785
Operating loss	(3,087)	(19,190)	(29,383)
Net loss	(2,931)	(18,622)	(28,803)
Net loss per share-basic and diluted	$ (0.43)	$ (0.73)	$ (1.07)
Shares used in calculating basic and diluted loss per share	6,889	25,588	26,834

	YEAR ENDED DECEMBER 31,					
	1995	1996	1997	1998	1999	MARCH 31, 2000
						ACTUAL	PRO FORMA
						(UNAUDITED)	(UNAUDITED)
					(IN THOUSANDS)		
HISTORICAL CONSOLIDATED BALANCE SHEET DATA:							
Cash and cash equivalents	$ 3,065	$ 9,682	$10,972	$ 4,556	$60,544	$46,447	$ 47,276
Total assets	5,933	24,658	24,272	12,719	75,683	62,576	131,428
Long-term debt, excluding current installments	451	719	132	382	1,017	858	904
Total stockholders' equity (deficit)	(11,264)	17,048	14,818	4,437	61,713	45,883	113,317

(1) Includes gross profit from our discontinued product lines.

(2) Includes stock compensation expense of $288,000, $715,000, $3.5 million, $336,000 and $1.1 million for the years ended December 31, 1997, 1998 and 1999 and the three months ended March 31, 1999 and 2000, respectively.

Management's Discussion and Analysis of Financial Condition and Results of Operations

THE FOLLOWING DISCUSSION SHOULD BE READ IN CONJUNCTION WITH THE CONSOLIDATED FINANCIAL STATEMENTS, PRO FORMA INFORMATION AND THE RELATED NOTES APPEARING ELSEWHERE IN THIS PROSPECTUS. THE FOLLOWING DISCUSSION CONTAINS FORWARD-LOOKING STATEMENTS THAT REFLECT OUR PLANS, ESTIMATES AND BELIEFS. OUR ACTUAL RESULTS COULD DIFFER MATERIALLY FROM THOSE DISCUSSED IN THE FORWARD-LOOKING STATEMENTS. FACTORS THAT COULD CAUSE OR CONTRIBUTE TO THESE DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE DISCUSSED BELOW AND THOSE LISTED UNDER "RISK FACTORS."

Overview

We are a leading provider of advanced messaging solutions for business communications. Our products and services enable businesses to extend existing networks and applications, creating secure online channels for interactive, business-critical communication. Tumbleweed Integrated Messaging Exchange, or Tumbleweed IME, is a platform and set of applications for creating secure communications channels between a business and its customers, partners and suppliers. Tumbleweed Messaging Management System, or Tumbleweed MMS, is a comprehensive solution that extends internal e-mail systems to the Internet through centralized management, policy enforcement, filtering and archiving. Used together, Tumbleweed IME and Tumbleweed MMS automatically apply security policies and redirect sensitive e-mail for secure, trackable delivery.

On January 31, 2000, we completed the acquisition of Worldtalk Communications Corporation, a leading provider of Internet security and policy management solutions that enable organizations to define and manage electronic mail and web security usage policies to manage the risks and liabilities associated with Internet communications. The business combination has been accounted for as a pooling of interests and, accordingly, our historical financial statements have been restated to include the accounts and results of operations of Worldtalk. Except as otherwise indicated, the terms "Tumbleweed," "we" and "our" refer to Tumbleweed and its subsidiaries, including Worldtalk, in this discussion.

Our revenue consists of (i) license revenue (ii) services revenue and (iii) transaction revenue. License revenue consists of initial license fees and the sale of distribution rights. License revenue typically is recognized upon the later of customer acceptance or software shipment. Revenue from the sale of distribution rights is recognized upon the execution of a distribution agreement. Services revenue

consists of consulting fees and support and maintenance fees. Consulting fees related to installation are recognized upon acceptance of the installation while all other consulting fees are recognized based on percentage of completion. Support and maintenance fees are paid for ongoing customer support as well as for the right to receive future upgrades of our products during the term of the maintenance agreement. Revenue from support and maintenance is recognized ratably over the period the support is provided. Transaction revenue is based on the volume of transactions by our customers, and the related revenue is recognized based on payment schedules and transaction reports from our customers. A number of our contracts include minimum transaction volume requirements. In these cases, the minimum guaranteed revenue is recognized when fees are due and payable during those months where transaction volume does not exceed the designated minimums.

In July 1999, Worldtalk completed the sale of its NetJunction e-mail connectivity and directory integration product line to Wingra Technologies, LLC. Under the terms of the agreement, Wingra has acquired the assets related to the NetJunction product line and has assumed support and development responsibilities for NetJunction customers and resellers with current agreements. As a result of the sale of the NetJunction product line, revenue related to the NetJunction product line is reported as discontinued product line in our consolidated statement of operations.

Historically, our revenue has been concentrated among a few customers, but the customer base contributing to revenue has been diversifying. For the three months ended March 31, 2000 and the year ended December 31, 1999, our top five customers contributed 30% and 24% of total revenue, respectively. In addition, the constituency of that list is evolving.

A substantial portion of our revenue relates to international customers or operations. Most of our contracts are denominated in U.S. dollars. However, a contract between our Japanese subsidiary, Tumbleweed Communications K.K., and Hikari Tsushin is denominated in Japanese yen, and, in the future, an increasing number of contracts may be denominated in foreign currencies. We currently do not have hedging or similar arrangements to protect us against foreign currency fluctuations. Therefore, we increasingly may be subject to currency fluctuations, which could harm our operating results in future periods. On May 15, 2000, we repurchased from Hikari 5% of the outstanding stock of Tumbleweed KK, for a price of approximately $700,000.

During the years ended December 31, 1999, 1998 and 1997 and the three months ended March 31, 2000, we recorded aggregate deferred stock compensation expense of $10.5 million primarily in connection with the grant of certain stock options which were granted at exercise prices less than the deemed fair value on the grant date. The deferred stock compensation expense is being amortized on an accelerated basis over the vesting period of the options, which is generally four years. Of the total deferred stock compensation expense, $3.5 million, $715,000, $288,000, $1.1 million and $336,000 was amortized in the years ended December 31, 1999, 1998 and 1997, and the three months ended March 31, 2000 and 1999, respectively, and we expect that approximately $2.3 million, $1.8 million, and $1.1 million will be amortized during the remainder of 2000, 2001, and 2002 and thereafter, respectively. The aforementioned amounts do not include any compensation expense that might result from the proposed Interface transaction.

Our future net income and cash flow will be affected by our ability to apply net operating losses for federal tax reporting purposes against taxable income in future periods due to a cumulative change in ownership for income tax purposes, as defined in Section 382 of the Internal Revenue Code, arising from the issuance of stock.

Recent Development

On June 28, 2000, we entered into a merger agreement providing for the acquisition of Interface Systems, Inc. Pursuant to the merger agreement, each outstanding share of Interface common stock will be converted into the right to receive 0.264 of a share of our common stock upon the closing of the merger, and we will assume all outstanding options and warrants of Interface. As of June 28, 2000, there were outstanding 4,719,675 shares of Interface common stock as well as options and warrants to purchase an additional 886,018 shares of Interface common stock. The acquisition, if completed, will be treated as a purchase for accounting purposes. Therefore, we expect to expense up to $2.0 million of acquired in-process research and development, and to record unearned compensation and goodwill and other intangibles of approximately $63.3 million to be amortized over periods ranging from one to three years. Our expectation with respect to these amounts and periods are preliminary and therefore subject to substantial adjustments. We also agreed to loan Interface $3 million in connection with this transaction. The acquisition is not expected to close until after the closing of this offering. The acquisition is subject to customary closing conditions, including approval by the shareholders of Interface. As a result, the acquisition may not close, and investors should not rely on the consummation of the acquisition in purchasing the shares offered hereby. The transaction will result in significant one-time charges, whether completed or not, and, if completed, will substantially increase our operating expenses in future periods.

We have announced our intention to divest the Interface businesses other than L2i. These businesses comprised a substantial majority of the historical operating results of Interface, as more fully described in the pro forma financial statements included elsewhere in this prospectus.

Results of Operations

Three Month Periods Ended March 31, 2000 and 1999

REVENUE. Total revenue from continuing product lines for the three months ended March 31, 2000 increased 102% to $6.6 million from $3.3 million (excluding revenue of $638,000 from discontinued products) for the same three months in 1999. Total revenue increased in both periods due to increases in license, services and transaction revenue.

License revenue for the three months ended March 31, 2000 increased 61% to $4.4 million from $2.7 million for the same three months in 1999. License revenue increased due to a higher number of new customers brought into production and to additional license fees paid by existing customers.

Services revenue for the three months ended March 31, 2000 increased 170% to $1.5 million from $564,000 for the same three months in 1999. The increase in services revenue was due to an increase in contract development work performed by our professional services organization, and, to a lesser extent, increases in maintenance fees. The increase in contract development work was a direct result of the increase in customers licensing our products.

Transaction revenue for the three months ended March 31, 2000 increased to $730,000 from $3,000 for the same three months in 1999. The increase in transaction revenue resulted from minimum transaction fee payments made by new customers who launched IME-based services, and to a lesser extent, transaction fee payments made by existing customers.

Total revenue from the Tumbleweed IME product line for the three months ended March 31, 2000 increased 474% to $4.0 million from $693,000 for the same three months in 1999 due to increases in license, services, and transaction fees revenue. License revenue from the IME product line for the three months ended March 31, 2000 increased 349% to $2.3 million from $518,000 for the same three months in 1999 due to bringing new customers into production and to additional license fees paid by existing customers. Services revenue from the IME product line for the three months ended March 31, 2000 increased 434% to $923,000 from $172,000 for the same three months in 1999. The increase in services revenue was due to an increase in contract development work by our professional services organization, and, to a lesser extent, increases in maintenance fees. Transaction fees revenue from the IME product line for the three months ended March 31, 2000 increased to $730,000 from $3,000 for the same three months in 1999. The increase in transaction fees revenue resulted from minimum transaction fee payments made by new customers who launched IME-based services and, to a lesser extent, transaction fee payments from existing customers.

Total revenue from the Tumbleweed MMS product line remained flat at $2.6 million for both the three months ended March 31, 2000 and the same three months in 1999 (excluding revenue of $638,000 from discontinued products). License revenue from the MMS product line for the three months ended March 31, 2000 decreased 7% to $2.0 million from $2.2 million for the same three months in 1999. MMS revenue for the three months ended March 31, 1999 included a non-recurring commitment with two resellers. Services revenue from the MMS product line for the three months ended March 31, 2000 increased 53% to $600,000 from $392,000 for the same three months in 1999. The increase in services revenue was due to an increase in contract development work by our professional services organization, and, to a lesser extent, increases in maintenance fees.

COST OF REVENUE. Cost of revenue is comprised of license cost, services cost and transaction cost. License cost is primarily comprised of royalties paid to third parties for software licensed by us for inclusion in our products. Services cost is comprised primarily of personnel and overhead costs related to customer support and contract development projects. Transaction fees cost is primarily comprised of royalties due on transaction fees revenue and, to a lesser extent, depreciation expense and connectivity costs incurred in generating transaction revenue. Total cost of revenue for the three months ended March 31, 2000 increased 149% to $2.2 million from $904,000 for the same three months in 1999 corresponding to increased revenue during the same period.

License cost for the three months ended March 31, 2000 increased 128% to $267,000 from $117,000 for the same three months in 1999. License costs increased due to an increase in sales of products containing software licensed from third parties. The increase was not in direct proportion to the increase in license revenue as some of the agreements with third parties contain fixed minimum payments.

Services cost for the three months ended March 31, 2000 increased 148% to $1.9 million from $782,000 for the same three months in 1999. The increase was primarily due to higher personnel costs supporting an increase in new contract development projects and an increase in facilities-related expenses.

Transaction fees cost for the three months ended March 31, 2000 was $40,000 compared to $5,000 for the same three months in 1999. The increase in transaction fees cost resulted primarily from royalties paid on transaction fees revenue and, to a lesser extent, depreciation expense and connectivity costs incurred in generating transaction revenue.

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses are comprised of engineering and related costs associated with the development of Tumbleweed IME and MMS applications, quality assurance and testing. Research and development costs for the three months ended March 31, 2000 increased 58% to $2.8 million from $1.8 million for the same three months in 1999. The increase was primarily because of an increase in personnel needed to support ongoing development of our products and new applications for our target markets, increases in average salaries for development personnel in order to provide a competitive salary in today's marketplace and increased facilities-related expenses. We expect that research and development expenses will increase in absolute dollars in future periods mainly because of an increase in personnel costs. We anticipate that additional research and development personnel will be required for us to develop and support new projects as we expand the functionality of our platforms, increase the number of vertical applications built for our target markets and integrate our platforms with new messaging applications.

SALES AND MARKETING EXPENSES. Sales and marketing expenses are primarily comprised of salaries, commissions, travel expenses and costs associated with trade shows, advertising and other marketing efforts. Sales and marketing expenses for the three months ended March 31, 2000 increased 129% to $7.2 million from $3.1 million for the same three months in 1999. The increase in sales and marketing expenses was primarily from increased sales staffing and incentive compensation costs. We expect that sales and marketing expenses will increase in absolute dollars in future periods as we expand into new target markets and geographic areas. Current plans are to significantly increase the number of our sales and marketing personnel worldwide, as we focus on extending our position in our target markets throughout 2000.

GENERAL AND ADMINISTRATIVE EXPENSES. General and administrative expenses consist primarily of personnel and support costs for our finance, legal, information systems and human resources departments as well as professional fees. General and administrative expenses for the three months ended March 31, 2000 increased 100% to $1.7 million from $816,000 for the same three months in 1999. The increase in general and administrative expenses was due to increased staffing

expenses, increased legal fees corresponding to the patent infringement lawsuit we brought against The docSpace Company, Inc., which is still pending, and increased professional fees. We expect that general and administrative expenses will increase in absolute dollars in future periods as we continue to grow our infrastructure in line with our business growth.

DEFERRED COMPENSATION EXPENSE. Deferred compensation expense is recorded in connection with the grant of certain stock options to non-employees and options granted to employees at exercise prices less than the deemed fair value on the grant date. During the three months ended March 31, 2000, we recorded aggregate deferred stock compensation expense of $1.3 million compared to $2.3 million for the same three months in 1999. The deferred stock compensation expense is being amortized on an accelerated basis over the vesting period of the options, which is generally four years. Of the total deferred stock compensation expense, $1.1 million and $336,000 was amortized in the three months ended March 31, 2000 and 1999, respectively.

MERGER RELATED AND RESTRUCTURING EXPENSES. Merger related and restructuring expenses, which were recorded in connection with the acquisition of Worldtalk, are primarily comprised of investment banker's fees, legal fees, severance payments and accounting and printer fees. Merger related and restructuring expenses for the three months ended March 31, 2000, were $10.8 million.

OTHER INCOME, NET. Other income, net, is primarily comprised of interest income earned on investment securities. Other income, net, for the three months ended March 31, 2000 increased 375% to $656,000 from $138,000 for the same three months in 1999 due to increased interest income from cash invested in money market accounts and commercial paper. The increase in cash balances available for investment resulted from proceeds from the issuance of equity securities, including common stock issued in our initial public offering completed in August 1999.

Years Ended December 31, 1999 and 1998

REVENUE. Total revenue increased 45% to $15.3 million in 1999 from $10.6 million in 1998 (excluding revenue of $1.5 million and $4.9 million from discontinued products in 1999 and 1998) due to increases in license, services and transaction revenue. License revenue from continuing product lines increased 25% to $11.3 million in 1999 from $9.0 million in 1998 due to bringing new customers into production and to additional license fees paid by existing customers. Services revenue from continuing product lines increased 122% to $3.0 million in 1999 from $1.4 million in 1998. The increase in services revenue was due to an increase in contract development work by our professional services organization, and, to a lesser extent, increases in maintenance fees. Transaction revenue from continuing product lines was $981,000 in 1999 compared to zero in 1998. The increase in transaction fees revenue resulted from minimum transaction fee payments made by new customers who launched IME-based services and, to a lesser extent, transaction fee payments from existing customers.

Total revenue from the IME product line increased 222% to $5.8 million in 1999 from $1.8 million in 1998 due to increases in license revenue, services, and transaction revenue. License revenue from the IME product line increased 285% to $3.4 million in 1999 from $885,000 in 1998 due to bringing new customers into production and to additional license fees paid by existing customers. Services revenue from the IME product line increased 52% to $1.4 million in 1999 from $910,000 in 1998. The increase in services revenue was due to an increase in contract development work by our professional services organization, and, to a lesser extent, increases in maintenance fees. Transaction revenue from the IME product line was $981,000 in 1999 compared to zero in 1998. The increase in transaction fees revenue resulted from minimum transaction fee payments made by new customers who launched IME-based services and, to a lesser extent, transaction fee payments from existing customers.

Total revenue from the MMS product line increased 11% to $9.5 million in 1999 from $8.6 million (excluding revenues of $1.5 million and $4.9 million from discontinued products in 1999 and 1998) in 1998. License revenue from the MMS product line decreased 3% to $7.9 million in 1999 from $8.1 million in 1998 due to termination of a Japanese distributor in the third quarter of 1998, resulting in no license revenue from Japan for the first six months of 1999. Services revenue from the MMS product line increased 263% to $1.6 million in 1999 from $449,000 in 1998. The increase in services revenue was due to an increase in contract development work by our professional services organization, and, to a lesser extent, increases in maintenance fees.

COST OF REVENUE. Cost of revenue increased 15% to $4.9 million in 1999 from $4.3 million in 1998. License cost decreased 21% to $737,000 in 1999 from $931,000 in 1998. License costs decreased primarily due to reductions in certain royalty and other amortized costs. Services cost increased 23% to $4.1 million in 1999 from $3.3 million in 1998. The increase was primarily due to increased personnel costs supporting an increase in new contract development projects and an increase in facilities-related expenses. Transaction fees cost was $78,000 in 1999 compared to $0 in 1998. The increase in transaction fees cost resulted from royalties due on transaction fees revenue and, to a lesser extent, depreciation expense and connectivity costs incurred in generating transaction fees revenue.

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses increased 49% to $8.9 million in 1999 from $6.0 million in 1998. The increase was primarily due to increased head count supporting development of the Tumbleweed IME platforms and new applications developed for our target markets, increases in average salaries for development personnel and increased facilities related expenses.

SALES AND MARKETING EXPENSES. Sales and marketing expenses increased 73% to $19.9 million in 1999 from $11.5 million in 1998. The increase in sales and marketing expenses was primarily due to increased sales staffing and incentive compensation costs.

GENERAL AND ADMINISTRATIVE EXPENSES. General and administrative expenses increased 6% to $5.6 million in 1999 from $5.2 million in 1998. The increase in general and administrative expenses was due to an increase in legal fees corresponding to the patent infringement lawsuit we brought against The docSpace Company, Inc., which remains pending, as well as increased staffing expenses and professional fees.

OTHER INCOME, NET. Other income, net, increased 306% to $2.1 million in 1999 from $524,000 in 1998 due to increased cash balances invested in money market accounts and commercial paper. The increase in cash balances available for investment in 1999 resulted from proceeds from the issuance of equity securities, including common stock issued in our initial public offering completed in August 1999.

Years Ended December 31, 1998 and 1997

REVENUE. Total revenue increased 28% to $15.5 million in 1998 from $12.1 million in 1997. Approximately 3% of total revenue in 1997 was derived from prior agreements relating to our Envoy technology that was sold to Novell, Inc., which is excluded from the IME and MMS product line revenues described below. License revenue from continuing product lines increased 120% to $9.0 million in 1998 from $4.1 million in 1997 due primarily to increased sales of our MMS product lines, which were first shipped in September 1997 and increases in initial license fees from Tumbleweed IME customers. We have recognized revenue from Tumbleweed IME commencing with its launch in July 1997. The level of software license revenue in 1998 was impacted by the termination of the MMS distributor agreement with a Japanese distributor in the third quarter resulting in no MMS software license revenue from the Japanese market in the third and fourth quarters of 1998. Services revenue increased 425% to $1.4 million in 1998 from $259,000 in 1997 due to increases in custom development work performed for our customers.

Total revenue from the IME product line increased 722% to $2.0 million in 1998 from $245,000 in 1997. License revenue increased 352% to $885,000 in 1998 from $196,000 in 1997 due to increases in initial license fees from customers. Services revenue increased 1,757% to $910,000 in 1998 from $49,000 in 1997 due to increases in custom development work performed for our customers.

Total revenue from the MMS product line increased 128% to $8.6 million in 1998 from $3.7 million (excluding revenue of $4.9 million and $7.6 million from discontinued products in 1998 and 1997) in 1997. License revenue from the MMS product line increased 117% to $8.1 million in 1998 from $3.7 million in 1997. The MMS products were first shipped in September 1997. The level of software license revenue in 1998 was impacted by the termination of the MMS Japanese distributor in the third quarter of 1998 resulting in no software license revenue from the Japanese market in the third and fourth quarters of 1998. Services revenue from the MMS product line increased 49% to $449,000 in 1999 from $9,000 in 1998. The increase in services revenue was due to an increase in contract development work by our professional services organization, and, to a lesser extent, increases in maintenance fees.

COST OF REVENUE. Cost of revenue increased 3% to $4.3 million in 1998 from $4.1 million in 1997. License cost decreased 15% to $931,000 in 1998 from $1.1 million in 1997 due to product mix and certain fixed price royalty arrangements with third-party vendors. Services cost increased 10% to $3.3 million in 1998 from $3.0 million in 1997 due to increased personnel costs to support new projects associated with the launch of Tumbleweed IME, partially offset by lower outside contracting expenses associated with the MMS product line.

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses decreased 3% to $6.0 million in 1998 from $6.2 million in 1997. The decrease was primarily due to the reduction of headcount dedicated to the MMS product lines early in the second half of 1997.

SALES AND MARKETING EXPENSES. Sales and marketing expenses increased 16% to $11.5 million in 1998 from $10.0 million in 1997. The increase was primarily due to increased staffing as well as increased spending on marketing programs associated with the launch of Tumbleweed IME and the MMS product lines.

GENERAL AND ADMINISTRATIVE EXPENSES. General and administrative expenses increased 52% to $5.2 million in 1998 from $3.5 million in 1997. The increase was primarily due to the termination of the distributor agreement with the MMS Japanese distributor which resulted in a $1.7 million allowance for doubtful accounts charge for the full amount owed by the MMS Japanese distributor.

OTHER INCOME, NET. Other income, net, is primarily comprised of interest income earned on investment securities. Other income, net, decreased 22% to $524,000 in 1998 from $673,000 in 1998 due to fluctuations in the cash and cash equivalent and short-term investments balances, coupled with interest rate fluctuations.

Quarterly Results of Operations (Unaudited)

The following table presents selected unaudited quarterly consolidated statements of operations data for the five quarters ended March 31, 2000. In the opinion of management, this information has been presented on the same basis as the audited consolidated financial statements and related notes appearing elsewhere in this prospectus. Management also believes that all necessary adjustments have been included in the amounts stated below in order to state fairly the unaudited quarterly results when read in conjunction with our audited consolidated financial statements and related notes. Results from any quarter are not necessarily indicative of the results to be expected for the entire fiscal year or for any future period.

	THREE MONTHS ENDED				
	MARCH 31, 1999	JUNE 30, 1999	SEPTEMBER 30, 1999	DECEMBER 31, 1999	MARCH 31, 2000
			(IN THOUSANDS)		
Revenue:					
License	$ 2,702	$ 2,382	$ 3,081	$ 3,120	$ 4,356
Services	564	491	999	964	1,524
Transaction fees	3	203	318	457	730
Revenue from continuing product lines	3,269	3,076	4,398	4,541	6,610
Discontinued product line	638	561	273	--	--
Total revenue	3,907	3,637	4,671	4,541	6,610

Cost of revenue:					
License cost	117	125	248	247	267
Services cost	782	983	1,246	1,077	1,941
Transaction fees	5	15	24	34	40
Total cost of revenue	904	1,123	1,518	1,358	2,248
Gross profit	3,003	2,514	3,153	3,183	4,362
	77%	69%	68%	70%	66%
Operating expenses:					
Research and development(1)	1,794	2,077	2,296	2,756	2,843
Sales and marketing(2)	3,144	4,177	5,428	7,168	7,192
General and administrative(3)	816	1,067	2,006	1,635	1,640
Stock compensation	336	969	1,115	1,116	1,074
Merger related and restructuring expenses	--	--	--	--	10,803
Total operating expenses	6,090	8,290	10,845	12,675	23,552
Operating loss	(3,087)	(5,776)	(7,692)	(9,492)	(19,190)
Other income (expense), net	138	157	956	875	656
Net loss before provision for taxes	(2,949)	(5,619)	(6,736)	(8,617)	(18,534)
Provision for (benefits from) taxes	(18)	93	136	90	88
Net loss	$(2,931)	$(5,712)	$(6,872)	$(8,707)	$(18,622)

(1) Exclusive of non-cash compensation expense of $140,000, $293,000, $318,000, $298,000 and $274,000 as of March 31, 1999, June 30, 1999, September 30, 1999, December 31, 1999 and March 31, 2000, respectively.

(2) Exclusive of non-cash compensation expense of $146,000, $545,000, $623,000, $647,000 and $636,000 as of March 31, 1999, June 30, 1999, September 30, 1999, December 31, 1999 and March 31, 2000, respectively.

(3) Exclusive of non-cash compensation expense of $50,000, $131,000, $174,000, $171,000 and $164,000 as of March 31, 1999, June 30, 1999, September 30, 1999, December 31, 1999 and March 31, 2000, respectively.

Revenue from continuing product lines decreased in the quarter ended June 30, 1999. Revenue from the MMS product line declined $508,000 due to declines in both MMS license and services revenue. MMS license revenue declined due to termination of a Japanese distributor in the third quarter of 1998, resulting in no license revenue from Japan for the first six months of 1999. The decline in MMS revenue was partially offset by an increase in IME license and transaction revenue during the quarter.

Revenue from continuing product lines increased $1.3 million in the quarter ended September 30, 1999. Revenue from the IME product line increased $677,000 due to increased license fees from new customer contracts and to an increase in services revenue. MMS license revenue also increased during the quarter due to new customer licenses.

Revenue from continuing product lines increased $143,000 in the quarter ended December 31, 1999. IME product line revenue increased $706,000 during the quarter due to increased license fees from new contracts and due to an increase in transaction based fees. The increase in IME revenue was partially offset by a decline of $563,000 in MMS revenue. MMS revenue declined due to lower license fees compared to the third quarter.

Revenue from continuing product lines for the quarter ended March 31, 2000 increased $2.1 million. IME product line revenue increased $1.6 million due to increased license fees, services fees and transaction fees. MMS product line revenue increased $486,000 due to increased license fees from new customer contracts.

Gross profit declined as a percentage of sales from 77% in the quarter ended March 31, 1999 to 69% in the quarter ended June 30, 1999. Services costs increased during the period as we added personnel to support new development contracts and anticipated growth in services revenue in future quarters.

Research and development increased each quarter due to increased headcount supporting the development of the IME and MMS product lines and new applications developed for our target markets.

Sales and marketing expenses increased each quarter due to increased sales staffing, the opening of additional sales offices, incentive compensation expenses and increased expenses related to the expansion into international markets.

General and administrative expenses increased for the quarters ended June 30, 1999 and September 30, 1999 while decreasing for the quarters ended December 31, 1999 and March 31, 2000. The increases were primarily due to increased legal fees corresponding to the patent infringement lawsuit we filed. The decreases were due primarily to lower staffing expenses.

Fluctuations in Quarterly Results

As a result of our limited operating history and the emerging nature of the markets in which we compete, we are unable to accurately forecast our revenue or expenses. Our success is dependent upon our ability to enter into and maintain strategic relationships with customers and to develop and maintain volume usage of our products by our customers and their end-users. Our revenue has fluctuated and our quarterly operating results will continue to fluctuate based on the timing of the execution of new customer licenses in a given quarter. Our license revenue is comprised entirely of initial license and distribution fees. As a result, we will be required to regularly and increasingly sign additional customers with substantial initial license fees on a timely basis to realize comparable or increased license revenue.

Our services revenue historically has been comprised almost entirely of implementation, customization and consulting fees and support and maintenance fees, as actual transaction-based revenue to date has been minimal. As a result, we will be required to increase our services revenue in the short term through custom development work and contractual transaction minimums and in the longer term through the increased transaction volume with the use of our services. Unless and until we have developed a significant and recurring transaction-based revenue stream from communications that are sent with our services, our revenue will continue to fluctuate significantly. Accordingly, we may be unable to achieve and recognize quarterly or annual revenue consistent with our historical operating results or expectations.

In addition, sales to a limited number of customers have constituted a majority of our revenue in any given quarter. In particular, five customers comprised approximately 30% of our revenue in the three months ended March 31, 2000. Therefore, the deferral or cancellation of an agreement, or a decision not to move from a pilot or preliminary phase into final production by any existing or anticipated customer could harm our operating results for a quarter or annual period. We have experienced, and expect to continue to experience, fluctuations in revenue and operating results from quarter to quarter for other reasons which are more fully set forth under the caption "Risk Factors -- Our Quarterly Financial Results Are Subject to Significant Fluctuations."

As a result of these factors, we believe that quarter-to-quarter comparisons of our revenue and operating results are not necessarily meaningful, and that these comparisons may not be accurate indicators of future performance. Because our staffing and operating expenses are based on anticipated revenue levels, and because a high percentage of our costs are fixed, small variations in the timing of the recognition of specific revenue could cause significant variations in operating results from quarter to quarter. If we are unable to adjust spending in a timely manner to compensate for any unexpected revenue shortfall, any significant revenue shortfall would likely have an immediate negative effect on our operating results. Moreover, our operating results in one or more future quarters may fail to meet the expectations of securities analysts or investors. If this occurs, we would expect to experience an immediate and significant decline in the trading price of our stock.

Liquidity and Capital Resources

Since inception, we have financed our operations primarily through the issuance of equity securities. On March 31, 2000, December 31, 1999, December 31, 1998 and December 31, 1997, we had $46.5 million, $60.5 million, $4.6 million and $11.0 million in cash and cash equivalents, respectively.

Net cash used in operating activities for the three months ended March 31, 2000 was $12.9 million. Cash used in operating activities was primarily the result of net operating losses which included $10.8 million of merger related and restructuring expenses, offset by certain non-cash charges. Net cash used by operating activities for 1999 was $18.1 million which was primarily the result of a net operating loss, offset by certain non-cash charges and increases in accounts payable and accrued liabilities. Net cash used in operating activities for 1998 was $10.9 million which was primarily the result of a net operating loss, offset by certain non-cash charges and increases in accounts payable and other

liabilities, and prepaid expenses and other current assets. Net cash used in operating activities for 1997 was $6.5 million which was primarily the result of a net operating loss, offset by certain non-cash charges and an increase in deferred revenue and a decrease in accounts receivable.

Net cash used in investing activities for the three months ended March 31, 2000 was $2.1 million. Net cash used in investing activities was primarily the result of capital expenditures related to computer equipment for new employees and sales and services mainframe software. Net cash used in investing activities for 1999 was $2.3 million which was primarily the result of capital expenditures related to increased facilities expansion offset by the sale of short-term investments. Net cash provided by investing activities for 1998 was $3.7 million which was primarily the result of sales and maturities of short-term investments, partially offset by the purchase of short-term investments. Net cash used in investing activities for 1997 was $1.0 million which was primarily the result of capital expenditures related to increased personnel.

Net cash provided by financing activities for the three months ended March 31, 2000 was $885,000. Cash provided by financing activities was primarily attributable to proceeds from the exercise of stock options. Net cash provided by financing activities for 1999 was $76.4 million, which was primarily attributable to net proceeds from the issuance of equity securities to investors including our initial public offering of common stock completed in August 1999 and our Series C financing completed in February 1999. Net cash provided by financing activities for 1998 was $778,000, which was primarily due to an increase in borrowings and proceeds from the issuance of common stock upon the exercise of stock options and sale of our common stock under our employee stock purchase plan. Cash provided by financing activities for 1997 was $8.8 million, which was primarily attributable to net proceeds from the issuance of equity securities to investors.

As of March 31, 2000 and December 31, 1999, our principal commitments consisted of obligations outstanding under equipment and operating leases. Our equipment leases require payment of rental fees to third party leasing providers at interest rates of approximately 8.45%. In most cases, we have no obligations to purchase the equipment at the end of the lease term. We anticipate a substantial increase in capital expenditures consistent with potential growth in operations, infrastructure and personnel.

In July 1998, we entered into an agreement with a bank, which included a $1.5 million revolving credit facility, with availability based on outstanding accounts receivable, and a $1.75 million equipment loan facility. Borrowings under the credit facility and equipment facility carry interest at the prime rate plus 0.5% and 0.75%, respectively, with interest payable monthly. Borrowings under the equipment facility are due in 36 equal monthly installments and are secured by certain of our assets. As of March 31, 2000 and December 31, 1999, total borrowings under the equipment loan facility were $1.3 million and $1.3 million in the aggregate and $300,000 and $200,000 remained available under the facility, respectively. There were no borrowings under the credit facility as of March 31, 2000 and December 31, 1999.

In September 1999, we entered into a $525,000 financing arrangement with another company to finance our directors' and officers' liability insurance premium. Borrowings under the loan agreement are payable in nine equal monthly installments. As of March 31, 2000 and December 31, 1999, total

debt outstanding under this financing arrangement was $61,000 and $302,000, respectively, and is classified as a current liability.

In connection with the proposed Interface transaction, we agreed to purchase an aggregate of $3.0 million of convertible subordinated promissory notes of Interface, pursuant to a convertible subordinated note purchase agreement dated June 28, 2000. At our option, or upon the occurrence of certain other events, the notes are convertible into Interface common stock at an initial conversion price of $9.50 per share, subject to adjustment.

Our capital requirements depend on numerous factors, including revenue generated from operations and market acceptance of our products and services, the resources devoted to the development of our products and services and the resources devoted to sales and marketing. We have experienced a substantial increase in capital expenditures and operating expenses since inception consistent with relocation and the growth in operations and staffing. We anticipate that these increases will continue for the foreseeable future. Additionally, we expect to make additional investments in technologies, and plan to expand our sales and marketing programs. We believe that our existing capital resources, including the proceeds to us from this offering, will enable us to maintain our current and planned operations for at least the next 12 months. However, we may need to raise funds prior to that time.

We intend to continue to consider future financing alternatives, which may include the incurrence of indebtedness, additional public or private equity offerings or an equity investment by a strategic partner. However, other than the revolving credit and equipment loan facilities and the insurance premium financing arrangement, we have no present commitments or arrangements assuring us of any future equity or debt financing, and additional equity or debt financing may not be available to us on favorable terms, if at all. We are not aware of seasonal aspects of our business that will affect our business on a short or long-term basis.

Year 2000 Compliance

We are not aware of any Year 2000 problems in any of our critical systems and products. However, the success to date of our Year 2000 efforts cannot guarantee that a Year 2000 problem affecting third parties upon which we rely will not become apparent in the future that could harm our business.

Quantitative and Qualitative Disclosures About Market Risk

We transact business in various foreign currencies. Accordingly, we are subject to exposure from adverse movements in foreign currency exchange rates. This exposure is primarily related to revenue and operating expenses in the United Kingdom and Japan denominated in the respective local currency. To date, we have not entered into any derivative financial instruments or hedging activities.

We currently do not use financial instruments to hedge operating expenses in the United Kingdom or Japan dominated in the respective local currency. We assess the need to utilize financial instruments to hedge currency exposures on an ongoing basis.

We do not use derivative financial instruments for speculative trading purposes, nor do we hedge our foreign currency exposure in a manner that entirely offsets the effects of changes in foreign exchange rates. We regularly review our hedging program and may as part of this review determine at any time to change our hedging program.

Interest Rate Sensitivity

The primary objective of our investment activities is to preserve principal while at the same time maximizing 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 rate equal to the then-prevailing interest rate and the prevailing interest rate later rises, the fair value of our investment will decline. To minimize this risk, we maintain our portfolio of cash equivalents in commercial paper and money market funds. In general, money market funds are not subject to market risk because the interest paid on these funds fluctuates with the prevailing interest rate.

The following table presents the amounts of our cash equivalents that are subject to market risk by range of expected maturity and weighted-average interest rates as of March 31, 2000. This table does not include money market funds because these funds are not subject to market risk.

	MATURING IN				
	NINETY DAYS OR LESS	NINETY DAYS TO ONE YEAR	OVER ONE YEAR	TOTAL	FAIR VALUE
Included in cash and cash equivalents....	$16,887	None	None	$16,887	$16,887
Weighted-average interest rate.....	6.22%				

Fixed Income Investments

Our exposure to market risks for changes in interest rates relates primarily to investments in money market funds and securities. We place our investments with high credit quality issuers and, by policy, limit the amount of the credit exposure to any one issuer.

Our general policy is to limit the risk of principal loss and ensure the safety of invested funds by limiting market and credit risk. All highly liquid investments with a maturity of three months or less at the date of purchase are considered to be cash equivalents, investments with maturities between three and twelve months are considered to be short-term investments and investments with maturities in excess of twelve months are considered to be long-term investments. For the fiscal year ended December 31, 1999, the weighted average interest rate on the investment portfolio was approximately 5.5%

Recent Accounting Pronouncements

In June 1998, the Financial Accounting Standards Board ("FASB") issued SFAS No. 133, Accounting For Derivative Instruments And Hedging Activities. SFAS No. 133 establishes methods of accounting for derivative financial instruments and hedging activities related to those instruments as well as other hedging activities. SFAS No. 133, as amended by SFAS No. 137, is effective for all fiscal quarters of fiscal years beginning after June 15, 2000. To date, we have not entered into any derivative financial instruments or hedging activities.

In December 1999, the SEC issued Staff Accounting Bulletin ("SAB") No. 101. The SAB summarized certain of the SEC Staff's views in applying generally accepted accounting principles to revenue recognition in financial statements. SAB No. 101, as amended by SAB No. 101B, and any resulting change in accounting principle that a registrant would have to report, is effective no later than the company's fiscal quarter ending December 31, 2000. We do not expect the application of SAB No. 101 to have a material effect on our financial position or results of operations, nor do we expect to report a change in accounting principles resulting from its application.

In March 2000, FASB issued Financial Interpretation No. 44 ("FIN 44"). FIN 44 clarifies (a) the definition of EMPLOYEE for purposes of applying Accounting Principles Board ("APB") Opinion 25, Accounting For Stock Issued To Employees, (b) the criteria for determining whether a plan qualifies as a noncompensatory plan, (c) the accounting consequence of various modifications to the terms of a previously fixed stock option or award, and (d) the accounting for an exchange of stock compensation awards in a business combination. FIN 44 is effective July 1, 2000, but certain conclusions in this Interpretation cover specific events that occur after either December 15, 1998, or January 12, 2000. To the extent that this Interpretation covers events occurring during the period after December 15, 1998, or January 12, 2000, but before the effective date of July 1, 2000, the effects of applying this Interpretation are recognized on a prospective basis from July 1, 2000. We do not expect the application of FIN 44 to have a material effect on our financial position or results of operations.

Business

THIS PROSPECTUS CONTAINS FORWARD-LOOKING STATEMENTS THAT INVOLVE RISKS AND UNCERTAINTIES. ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THOSE INDICATED IN THESE FORWARD-LOOKING STATEMENTS.

Overview

We are a leading provider of advanced messaging solutions for business communications. Our products and services enable businesses to extend existing networks and applications, creating secure online channels for interactive, business-critical communication. Tumbleweed Integrated Messaging Exchange, or Tumbleweed IME, is a platform and set of applications for creating secure communications channels between a business and its customers, partners, and suppliers. Tumbleweed

Messaging Management System, or Tumbleweed MMS, is a comprehensive solution that extends internal e-mail systems to the Internet through centralized management, policy enforcement, filtering and archiving. Used together, Tumbleweed IME and Tumbleweed MMS automatically apply security policies and redirect sensitive e-mail for secure, trackable delivery.

Industry Background

E-mail has quickly claimed its place as one of the most ubiquitous and utilized forms of business communications. International Data Corporation estimates that the number of electronic mailboxes will grow from approximately 315 million as of July 1999 to over 757 million by 2005. International Data Corporation further estimates that the number of e-mail messages sent worldwide will grow from 5.3 billion per day in 1999 to more than 26 billion per day by 2005.

Although e-mail, with its wide availability and acceptance, is an ideal mechanism for conducting business exchanges and automating time-intensive business processes, many companies have not yet expanded their use of e-mail beyond internal communication or casual Internet correspondence. Groupware e-mail solutions, like Microsoft Exchange and Lotus Notes, are widely used within an enterprise, but their security and management features do not extend beyond the corporate network. Standard Internet e-mail systems have much broader reach, but lack the security, tracking and archiving functionality required to conduct transactions and deliver sensitive information online. Thus, business processes that may in part be automated and online still rely on physical delivery by first class mail or overnight delivery services, for example, when sensitive communication is involved.

To take advantage of the e-mail infrastructure already deployed by most companies, businesses need advanced messaging solutions that create managed, secure communication channels on top of Internet e-mail, and extend the features of corporate e-mail networks to enable business-critical Internet communication.

The Tumbleweed Solution

We offer a variety of comprehensive messaging solutions that seamlessly integrate with existing business systems and networks, enabling our customers to conduct more business over the Internet.

Our solution consists of two complementary product lines. Tumbleweed IME, our infrastructure solution for creating secure communication channels, combines advanced security, tracking and personalization features in a single, comprehensive messaging environment. Tumbleweed IME uses public networks to provide efficient business communications over the Internet. Tumbleweed IME enables businesses to build secure, feature-rich interactive communication channels, resulting in the secure delivery of sensitive information to anyone, anywhere, anytime. Tumbleweed MMS enables businesses to safely extend internal e-mail networks to the Internet. Tumbleweed MMS enables businesses to centrally define and enforce Internet communication policies and manage their corporate intellectual assets by filtering content, archiving messages and applying security to e-mail traffic.

We sell Tumbleweed IME and related services to service providers that provide their customers with secure, reliable and trackable communication services for a fee. We also sell Tumbleweed IME products and services directly to enterprises in selected strategic markets, such as the banking, financial services, healthcare and manufacturing industries, enabling them to offer Tumbleweed-based services to their employees, customers, suppliers and partners. The Tumbleweed IME solution provides the following benefits to our customers:

- COMPREHENSIVE TECHNOLOGY. Tumbleweed IME is designed to provide a secure, efficient and cost-effective method for communicating important information online. Our solution contains all of the core technology, integration tools and professional services necessary to incorporate advanced messaging features into existing environments. Tumbleweed IME can be modified to meet the unique communication needs of specific customers, and can easily be integrated into existing environments. Because Tumbleweed has multiple IME applications available for use with the IME Platform, additional services can be added to an IME environment, enabling businesses to deliver several types of information over a single channel.

- MULTI-LEVEL SECURITY. In many cases, the reason business-critical information is not communicated online is the lack of security features available in existing e-mail solutions. Through our innovative and unique implementation of industry-standard security technologies, we are able to offer secure online communication services to anyone with e-mail and Internet access. Depending on the needs of the sender, security features can include encryption during transmission and storage, password protection for user authentication, or for highly sensitive communication, certificate-based signing and additional encryption features. Any level of security can easily be employed without requiring the sender and recipient to have the same messaging software.

- EASY, UNIVERSAL ACCESS. A successful advanced communication system must be able to reach anyone on the Internet. Tumbleweed IME is based on open Internet standards, and requires no proprietary desktop software, protocols or networks. Anyone with an e-mail account and web access can use our solution to both send and receive messages regardless of which e-mail system they use or the format of the information included. Similarly, Tumbleweed IME can be integrated with an enterprise's existing back office systems to enable automated communication. Because no new application or user interface is needed, there is no costly training or desktop deployment associated with our solution.

- PERSONALIZED COMMUNICATION. Communication of important business information such as transaction confirmations or account statements requires message customization for specific recipients. Using Tumbleweed IME, businesses can automatically generate unique messages for each individual, personalized with recipient-specific information and preferences. In addition, our solution allows senders to create messages targeting specific recipient preferences, demographics and communication history. Tumbleweed IME also enables our customers to easily incorporate marketing promotions into their business communication.

- SCALABLE ARCHITECTURE. Tumbleweed IME is designed to accommodate a variety of online communication applications, ranging from small corporate deployments to large enterprise installations supporting global service offerings. Our scalable architecture allows customers to accommodate high transaction volumes and implement desired levels of redundancy. Tumbleweed IME components can be distributed across multiple servers, allowing for an increasingly high volume of transactions while maintaining high standards of performance, reliability and security. The ability to seamlessly handle increasing transaction volumes is a key consideration for customers in deploying an enterprise-class online communication system.

We sell Tumbleweed MMS directly to enterprises in selected strategic markets, such as financial services, healthcare, manufacturing, telecommunications and government. The Tumbleweed MMS solution provides the following benefits to our customers:

- IDENTIFICATION AND HANDLING OF SENSITIVE DIGITAL INFORMATION. Using lexicons of keywords, Tumbleweed MMS scans messages and attachments looking for specific information. For example, Tumbleweed MMS can screen for confidential information, such as credit card numbers, medical information or legal advice; proprietary material, like business plans, contracts and sales figures; attachment types that are likely to carry corporate assets or confidential information; or industry-specific terminology, like "guaranteed return" in financial services or diagnostic codes in healthcare. When a policy violation is detected, Tumbleweed MMS can apply a combination of countermeasures to protect the information, the business relationship and the company.

- MULTI-LEVEL SECURITY. With Tumbleweed MMS Security Manager, organizations can create policies that automatically encrypt potentially sensitive information traveling to and from certain servers using the secure multipurpose Internet mail extension, or S/MIME, public key of each organization. This allows companies to create S/MIME Virtual Private Networks (VPNs) with longer-term business partners, such as law firms, insurance companies, or suppliers. Tumbleweed MMS handles all digital certificates at the server level, eliminating the need to deploy desktop encryption or manage individual public keys. It is also transparent to end users, allowing organizations to enforce encryption policies centrally, while users continue to send messages as they normally would.

- DYNAMIC ROUTING BASED ON POLICY. Because business relationships are dynamic, it doesn't always make sense to establish an S/MIME VPN, or assume that all parties have S/MIME public keys and S/MIME-compatible e-mail clients. But security solutions are only effective if they apply to everyone within an organization, and everyone sending e-mail into that organization. For ad-hoc communication with individuals, or short-term communication with business partners or customers, Tumbleweed MMS policies can transparently redirect messages to a secure delivery system, such as Tumbleweed IME. Messages that are routed via Tumbleweed IME can be read by any addressee with e-mail and Internet access. No special keys are required. Recipients can also reply to messages using the same secure channel, making Tumbleweed MMS an effective solution that ensures secure two-way communication between a company and the outside world.

Strategy

Our objective is to be the leading provider of online business communication services. Key elements of our strategy are to:

ESTABLISH OUR PRODUCTS AS THE LEADING INFRASTRUCTURE AND MANAGEMENT SOLUTIONS FOR ONLINE BUSINESS COMMUNICATION.

We intend to continue to establish Tumbleweed IME as the leading application platform upon which to build business-critical messaging applications. Rather than designing Tumbleweed IME as a point solution for a specific application, we have designed it to be a broad-based application development platform. As such, Tumbleweed IME can be extended to include a number of different applications and includes support for a comprehensive, open application programming interface. We intend to establish Tumbleweed MMS as the leading communication stream management solution. Tumbleweed MMS enables a wide variety of businesses to define and enforce security policies, ensuring the safe and efficient use of corporate e-mail systems. Tumbleweed MMS is scalable and modular, with components optimized for specific business processes and vertical industries. Through our direct sales force, we are pursuing key accounts in strategic markets. These strategic markets initially include the financial services, healthcare, manufacturing, legal and telecommunications industries.

Increase Recurring Transaction-based Revenue.

To increase our predictable, recurring revenue, we intend to continue to generate additional messaging traffic in our communication channel. In addition to a software license fee and related professional services fee, we charge our customers a transaction fee based on customer usage as evidenced by the volume of messages sent through Tumbleweed IME and Tumbleweed MMS. We intend to increase message volume by selling additional applications and value-added services to our installed customer base, selling IME customers MMS products and applications and selling MMS customers IME products and services. We intend to promote the use of policies defined and enforced in our MMS products to drive messaging traffic over our IME platform. In addition, we may acquire complementary businesses to increase our traffic flow.

Cultivate a Channel of Key Service Providers.

We intend to leverage our channel of service providers to expand our business into new strategic industry markets as well as to pursue additional general purpose transactions. Our service provider customers are helping to rapidly expand the market for secure online communications through their brand recognition, extensive sales and marketing resources and substantial services competencies.

Establish Tumbleweed Ime as the International Standard for Secure Online Communication.

We intend to continue to establish Tumbleweed IME as an international standard for secure online communication services by developing a significant base of enterprise and service provider customers. We also intend to accomplish this by capturing business with the national postal authorities. The national postal authorities present a strategic business opportunity for us. Postal authorities are highly trusted service providers in their respective geographies and are uniquely able to dictate national standards for certified online communication.

Expand Into Accounts After First Securing Business-critical Applications.

The sophistication of the Tumbleweed IME and Tumbleweed MMS systems enable us to first target those business-critical applications that require the highest degrees of security and tracking within an enterprise. Having secured these high-value applications, we can then expand our focus to include other messaging applications within the same enterprise. Customers benefit through the ability to use our solutions as the foundation for all of their enterprise messaging needs, from high-end to low-end applications. Our ability to address the entire spectrum of an enterprise's communication service needs should enable us to compete favorably against those companies whose technologies are primarily only suited to lower-end communications applications.

Provide Comprehensive Professional Services.

Our full outsourcing services enable our customers to reduce their cost of ownership and deployment time of our solutions, thereby helping reduce our sales cycle to those enterprises. Enterprise customers have the option of deploying our products either on their premises or outsourcing the deployment to us. We complement our outsourcing services with a full suite of professional and consulting services. These services are comprehensive, end-to-end and designed to help customers implement Tumbleweed IME-based applications and Tumbleweed MMS as rapidly as possible. The services include business-specific applications consulting, software development, training and education and complete technical support.

Our Products

We offer two complementary product lines.

Tumbleweed Ime

Tumbleweed IME combines an advanced software platform and customized applications to establish a vital Internet communication channel between a business and its customers, suppliers and partners. This channel enables businesses both to greatly expand and exploit the communication power of e-mail and to fully integrate existing business processes with the Internet. Once established, the IME channel can be used to securely send sensitive information to anyone with Internet access. When sensitive information is flowing over the Tumbleweed IME channel, deliveries can be personalized, tracked and archived, making business communication more secure.

Tumbleweed IME enables businesses to deliver secure and personalized outbound information in a variety of ways. This information can be distributed within e-mail messages, on the Internet via the Tumbleweed Secure Inbox, a protected repository for receiving and managing secure online communications, or through a combination of both e-mail and the Internet. IME has the unique and patented capability of taking an e-mail message recipient to a unique web page that is relevant to that recipient. In addition to being a vehicle for secure online communication services, Tumbleweed IME provides features to manage personalized content, track recipient transactions such as receipt or response, and integrate the system into existing back-office processes.

The Tumbleweed IME Platform includes the core functionality necessary for preparing, securing, delivering and tracking electronic communications, and provides the foundation on which businesses can build one or a series of online communication applications. Because advanced services require high performance and scalability, the Tumbleweed IME Platform has been designed to efficiently handle millions of secure messages daily. The Tumbleweed IME Platform's flexible architecture supports distributed execution of software components, allowing customers to expand the service as their requirements grow. This scalability, combined with advanced security and tracking features, enables customers to use our technology as the foundation for a variety of online communication services. Once installed, the IME Platform can be used for an array of applications--allowing businesses to quickly develop and deploy multiple services without having to re-invent or re-architect their environments.

Using the Tumbleweed IME Platform as a foundation, Tumbleweed IME Applications integrate with e-mail and legacy systems, interact with existing applications, and automate transactions and exchanges to provide a complete internal and external communications solution for the enterprise. These applications are built to integrate with and enhance specific business processes. IME STATEMENTS enables financial institutions to automatically send documents such as monthly statements and trade confirmations electronically, directly from back-office databases rather than through a process that involves printing, paper, and storage. IME ALERT and IME PERSONALIZE enable online businesses to customize their communications with customers, increasing the quality and value of the relationship. IME MESSENGER enables individuals to create ad-hoc electronic deliveries of any kind and send them through the secure IME channel. IME ASSIST enables businesses to automate responses to customer inquiries based on the context in which the inquiry is sent. And, IME DEVELOPER allows third parties to create new IME applications of their own.

Tumbleweed Mms

Tumbleweed MMS is a comprehensive solution for managing intellectual property as it travels over the Internet via e-mail. Tumbleweed MMS allows businesses to control both the processes and pathways involved, through options for routing, filtering, monitoring and archiving digital messages and documents. By defining what is allowed in, what is allowed out, and how deliveries are secured and sent, enterprises can enforce Internet communication policies, enabling them to safely extend e-mail networks to the Internet. Tumbleweed MMS provides a complete solution for managing business communications streams.

Tumbleweed MMS allows administrators and policy-makers to define and enforce security policies to ensure the safe and efficient use of corporate e-mail systems. Policies can be created to apply virus scanning, content control, access control, encryption, and digital signature policies universally across the enterprise. Tumbleweed MMS can also enact policies for secure communications by automatically re-routing sensitive e-mail traffic to Tumbleweed IME.

Tumbleweed MMS includes a suite of process managers and optional applications that can be quickly configured to define and enforce the policies appropriate to a particular business. MMS CONTENT MANAGER scans messages and attachments for specific words or strings of words. When a policy violation is detected, MMS can take a number of actions, such as block, quarantine, archive, or defer delivery. With MMS ACCESS MANAGER, companies can set policies that restrict e-mail from certain senders or to certain recipients. For example, policies can block inbound messages from known problem or "SPAM" domains, or prevent confidential information from being sent to a competitor's e-mail domain. MMS VIRUS MANAGER uses integrated server-based anti-virus software from Network Associates to detect and optionally clean or strip infected attachments in both incoming and outgoing messages. MMS Enterprise ARCHIVING automatically creates archives for future review. MMS SECURE MESSAGING REDIRECT automatically routes sensitive messages over more secure Tumbleweed IME channels. And MMS MESSAGE MONITOR allows organizations to continuously monitor e-mail activity using graphical reports of measurable statistics, including frequency of policy violations.

Tumbleweed Professional Services

Our professional services organization provides all of the consulting, integration engineering, custom application development, training and educational services and support necessary to build a unique online communication system based on our products.

The following are examples of the professional services we offer:

CUSTOM APPLICATION DEVELOPMENT, which extends the functionality of our solutions with custom engineering. The result is a unique online communication solution that can be deployed to precisely meet a company's business needs.

INTEGRATION CONSULTING, which provides the development work required to integrate our solutions with existing technology infrastructure, including legacy systems, customer databases, support systems, and billing systems.

DATA CENTER DESIGN AND INSTALLATION, which assists customers in designing communication services based on our products, including determining hardware requirements, backup processes and failure systems, and physically implementing our solution in the customer's data center. Our professional services organization also provides ongoing support of the customer's data center.

TECHNICAL TRAINING AND SUPPORT, which provides the customer with formal training in the administration and operation of our products and use of the Tumbleweed IME application programming interfaces.

Professional services are performed for an additional fee and are offered in conjunction with the licensing or deployment of our products.

Our products are generally deployed in business-critical environments, where highly responsive customer support is critical to the continuing success of the deployed solution. We maintain a centralized technical support group that is responsible for first-line and second-line customer support as well as distribution of products and documentation updates. This group works closely with our professional services and product development organizations in order to ensure continuity in the areas of problem resolution and priority response.

Customers may elect to purchase software upgrades for a fee. Transaction prices include basic support provided by us. We also offer extended customer assistance 24 hours a day, 7 days a week, for those customers requiring around the clock support. Pricing for such support is negotiated separately and is in addition to the standard fees.

Customers and Markets

Our customers are businesses for which Tumbleweed IME has created new opportunities to bring existing communications and business processes online. These customers fall into two broad categories. Service providers use Tumbleweed IME to provide secure, outsourced, online communications services to their business customers. Examples of service providers include Nippon Telegraph & Telephone Corporation, Pitney Bowes, Inc and UPS. Enterprise customers utilize Tumbleweed IME to provide secure online communications services originating within their own enterprise to employees, suppliers, and customers. Examples of enterprise customers include The Chase Manhattan Bank, American Express Travel Related Services Company, Inc., Datek Online Holdings Corp., TD Waterhouse, Travelers Property Casualty, Northern Trust and the European Union--Joint Research Centre.

Service providers and enterprise customers share many common attributes with respect to software requirements, the professional services necessary to integrate and implement a solution, and the potential for transaction-based fees paid based on usage of Tumbleweed IME. Although both service providers and enterprise customers are using Tumbleweed IME to provide secure online

communications services outside the boundaries of their enterprise, the principal distinction between the two groups is market focus. Service providers offer the service on a fee-for-use basis, while enterprise customers typically provide the improved communication services in order to gain business advantage through improved cost, speed, and/or interactivity.

We have developed multiple channels of distribution worldwide for our Tumbleweed MMS products. Our distribution strategy addresses the requirements of small companies and large enterprises alike and matches the appropriate sales and distribution channels to our product offerings. In North America, we have relied primarily on direct field sales, telesales, our professional services organization and value added resellers, such as Ikon Office Solutions, and their service organizations for the license, support and installation of our products. Internationally, sales are directed by non-exclusive distributors and value added resellers acting in concert with Tumbleweed MMS sales personnel. Tumbleweed MMS customers include Bell Atlantic, Merrill Lynch, E-Trade, Chevron, Nike, the Gap, Time Warner, Blue Cross/Blue Shield, Mass Mutual, Best Foods, Gymboree, Safeway, Kimberly-Clark, John Deere, and Robert Half.

The following table lists customers who have provided us with over $100,000 of recognized revenue from their use of Tumbleweed IME or over $50,000 of recognized revenue from their use of Tumbleweed MMS. This list excludes the numerous end-user customers, such as Hewlett-Packard, Sears, Roebuck & Co., Alston & Bird LLP, Morrison & Foerster LLP, the New York State Department of Transportation and Jackson National Insurance, that utilize Tumbleweed IME through our service provider customers.

Tumbleweed Service Providers

Cable & Wireless HKT
Canada Post
La Poste
MessageMedia Inc.
Norway Post
Pitney Bowes, Inc.
Prodamus Ltd.
Salmat Pty. Ltd.
Swiss Post
UPS
United States Postal Service
UPAQ, Ltd.

Tumbleweed Ime Enterprise Customers

American Century Services Corporation
American Express
Applicast
Canon Information Systems, Inc.
The Chase Manhattan Bank
CommFin, Inc.
Commonwealth of Pennsylvania
Datek Online Holdings Corp.
Diners Club Inc.
European Commission (JRC)
Goldman, Sachs & Co.
Hewlett Packard Japan Co., Ltd.
Hikari Tsushin
IHM
Mitsui & Co.
National Association of Security Dealers
Ogilvy & Mather
Orrick, Herrington & Sutcliffe
Paccar Incorporated
Pacificare
Peoplesoft
Phelps Dodge
Presbyterian Healthcare Services
Prudential Securities, Inc.
Rabbobank Nederland
Reckitt Benckiser
Robert Half
Salomon Smith Barney Holdings Inc.
SEB (Enskilda)
Siemens Switzerland Ltd.
Synergy TD Waterhouse Group, Inc.
The Travelers Indemnity Company

Natl Semiconductor
Nike Inc.
Northern Trust Company
NTL Group Ltd
Tokyo Matsushita Computer Corp.
Toyo Information Systems Co., Ltd.
Toppan Forms
Wachovia Securities, Inc.

Tumbleweed Mms Customers

Advanced Micro Devices, Inc.
Allegro Net
American Express
Amgen, Inc.
APL Oakland
Avery Dennison
Company
AZ Public Service Co.
BC Tel
Beckman Coulter, Inc.
Bell Atlantic
Brobeck Phleger & Harrison LLP
California Federal Bank
Canaccord
Catholic Healthcare West
Chevron Corp.
CIGNA
Clarica Life
Cosmair, Inc.
Credit Suisse First Boston
Deere & Co.
Dell Products, L.P.
Dunn and Bradstreet
Entrust
E-Trade
FDA
Fedsure Holdings
First American Corp.
First Citizens Bank & Trust Company
First Security Service Co.
Florida Power and Light
Freightliner
Gap Inc.
Glaxo Welcome, Inc.
GSA
Halifax Building Society
Jacobs Engineering
JC Bradford
Kimberly Clark
Kmart Corporation
Koch Industries Inc.
Lehman Brothers
Mass Mutual Life Insurance Co.
MBNA
MediaOne Group, Inc.
Merrill Lynch
Metropolitan Life Insurance
Royal Bank of Canada
SAFECO
Safeway
Sandia National Laboratories
Sutter Health
Telecom NZ
The Associates
Thompson Financial Services
Turner Broadcasting/CNN
US Bancorp
US Clearing/Fleet
US Department of Energy

Sales

We maintain a direct sales force that focuses on signing additional service providers and key enterprise customers in strategic industries, as well as further penetrating existing accounts by selling them our new applications. Our sales force is comprised of domestic and international sales groups consisting of a total of 97 employees. Offices in the U.S. currently include Redwood City, California; Santa Clara, California; New York, New York; Mount Laurel, New Jersey; Los Angeles, California; San Ramon, California; Chicago, Illinois; Redmond, Washington; Reston, Virginia; Charlotte, North Carolina and Dallas, Texas. We currently have international offices in Munich, Germany; Hurst, United Kingdom; Tokyo, Japan; Paris, France; Chatswood, Australia; Amersfoot, The Netherlands and Stockholm, Sweden. Our sales force includes field sales engineers and inside sales personnel who support the account executives. Field sales engineers assist our account executives with technical presentations, customer requirements analysis and initial solution designs. Our inside sales personnel assist the account executives in managing their customer relationships. Our sales effort is augmented by the sales forces of our service providers.

The sales force also works with value added resellers, or VARs, to sell Tumbleweed MMS products. The typical sales cycle can range from several weeks to six months, but may be significantly longer for large sales.

Marketing

Our marketing efforts are organized around three primary areas: product marketing, product management and marketing communications. Product marketing identifies target markets and customer opportunities, then develops the positioning, programs and materials to reach customers and support sales activities. Product marketing is also responsible for branding, corporate identity, and the Tumbleweed website.

Product management translates customer and market requirements into product plans and works with engineering to ensure completion. Product management also trains salespeople on product information and competition. Marketing communications drives overall market awareness of Tumbleweed and our products through public relations, industry analyst relationships, product reviews, editorial promotion, industry events and executive speaking engagements.

Technology

Tumbleweed Ime

The Tumbleweed IME Platform and Tumbleweed IME Applications have been designed using a distributed object model. This approach ensures that our solutions are able to grow as the number of users and messages increases, simply by adding additional servers, as well as providing enhanced reliability. Our use of an industry standard protocol for computing using multiple central processing units which may be distributed across discrete computing systems, known as the common object request broker architecture, enables us to integrate with systems from a variety of vendors. In addition, we leverage the proven technologies of our partners, such as Oracle databases, Netscape web servers and RSA's security toolkit, in order to provide a foundation for our products.

We have also developed a robust set of software procedures upon which additional application-specific software functionality can be built, known as application programming interfaces. These procedures enable us to enhance the Tumbleweed IME Platform and Tumbleweed IME Applications as the needs of our service provider customers evolve. Using this set of application programming interfaces, we can also create new Tumbleweed IME Applications, such as solutions suited to specific strategic industries, that run on top of the Tumbleweed IME Platform. We have made these application programming interfaces open and available to our customers and partners, enabling them to customize the Tumbleweed IME Platform and Tumbleweed IME Applications to suit their individual needs.

[Graphic depicts the Tumbleweed IME architecture, demonstrating how the Tumbleweed IME application programming interfaces interact with the Tumbleweed IME Platform and Tumbleweed IME Applications.]

As shown above, our Tumbleweed IME Platform is organized into three separate tiers, each of which can run on one or more physical servers. These tiers are:

- THE GATEWAY TIER, which provides an interface between the Tumbleweed IME Server and the Internet. The gateway tier translates outgoing messages into the appropriate protocols for transfer over the Internet, and translates incoming messages that use these protocols.

- THE OBJECT TIER, which contains the set of objects which implement the core functionality of the Tumbleweed messaging platform. Each core element of a secure communication transaction, such as a user's account or a secure package, is represented as a unique object within the object tier.

- THE STORAGE TIER, which uses the servers' underlying data storage and file systems, coupled with a relational database, to maintain objects when they are not in use.

Tumbleweed IME is a data-driven application architecture. As such, the Tumbleweed IME Personalization Application allows for the dynamic personalization of outbound messages on a per-recipient basis. Profile attributes associated with individual recipients may be stored and used to populate outbound messages with customized content. Tumbleweed IME's extensible data model allows both profile attributes and content data to be stored in the system.

The security options supported by Tumbleweed IME include encryption between sender and receiver based on the secure sockets layer standard, encryption technology developed by RSA on the server, name/password authentication, and encryption and digital signature based on public key infrastructure. Different security options can be applied depending on the security needs of specific applications. For applications requiring the highest levels of security, Tumbleweed IME is fully integrated with digital certificate and encryption technology from industry-leading vendors such as VeriSign and RSA. These public key infrastructure capabilities allow Tumbleweed IME to provide complete, tamper-proof, end-to-end security for highly sensitive business-to-business and business-to-consumer communications.

Electronic delivery applications, particularly those under regulatory control, must provide a full range of tracking capabilities to allow for the needs of non-repudiation and compliance reporting. Tumbleweed IME, as a server-based application platform, provides comprehensive tracking and reporting capabilities. These include tracking notification and receipt, recording failed transmissions, and providing all necessary status data and statistics for the messaging application.

We have assembled an engineering team with expertise in the following technologies and processes:

- HYPERTEXT TRANSFER PROTOCOL--The set of standards used by computers to transfer hypertext files, i.e. web pages, over the Internet.

- SIMPLE MAIL TRANSFER PROTOCOL--The standard protocol used for routing e-mail messages over the Internet.

- JAVA AND C++--Computer languages that are particularly well-suited for developing special programs, called objects, that can communicate with each other using the Internet.

- COMMON OBJECT REQUEST BROKER ARCHITECTURE--An industry standard protocol that allows distributed software components to interoperate with each other. It enables objects to communicate with one another regardless of what programming language they were written in or on

what type of computer they are running.

- DIGITAL CERTIFICATES--Digital documents, typically containing a public key and a name, that attest to the binding of a public key to an individual or other entity.

- PUBLIC KEY INFRASTRUCTURE--An evolving, standards-based system which relies on digital certificates to ensure the validity of Internet communications and transactions.

- SECURE MULTIPURPOSE INTERNET MAIL EXTENSIONS--An e-mail standard used to format complex messages so that they can be sent securely over the Internet.

- SECURE SOCKETS LAYER--An Internet standard which is used to encrypt data as it is being transmitted over the Internet.

Tumbleweed Mms

MMS is implemented in C++ as a multi-threaded Windows NT/2000 application. In a typical deployment, MMS is installed on a dedicated Windows machine between the firewall and the internal e-mail server. It consists of the following key components:

- Simple Mail Transfer Protocol Relay, or SMTP Relay;

- Policy Engine;

- Policy Managers; and - Directory.

The MMS SMTP Relay is responsible for routing messages. Like other SMTP relays, the MMS SMTP Relay accepts SMTP connections on TCP port 25 and initiates connections to other SMTP relays to transmit SMTP messages to their destinations or next hops. Between accepting e-mail messages and routing them, the MMS SMTP Relay passes e-mail messages to the MMS policy engine for evaluation. Depending on the result of the evaluation, the MMS policy engine might modify messages (disinfect, annotate, etc.), before returning them to the SMTP Relay. In other cases, it might drop or return messages, or place them in alternate queues (deferred delivery, quarantine, redirect) for special handling.

The MMS policy engine ensures that the proper policies are applied to all messages passing through MMS. It prepares messages for evaluation, sends them to the policy managers for evaluation, and determines final message handling based on the results of the individual policy manager analyses. For messages with multiple recipients, the policy engine keeps track of the different recipients and their corresponding policies, and if necessary, creates separate messages for recipients with different policy results. For example, if MMS receives a message with a .gif attachment, and if one of the message recipients has an attachment stripping policy that removes .gif attachments, then MMS will create two copies of the message, one without the attachment for the recipient with the attachment stripping policy and one with the attachment for the other recipient.

The MMS policy managers evaluate SMTP messages for security threats and other types of content that require special treatment. Each policy manager specializes in a specific countermeasure and is responsible for the policies that carry out that countermeasure. For example, the Virus Manager is responsible for the "Infected Message" policies offered by default in the MMS setup program. The policy managers are:

- Access Manager;

- Content Manager;

- Format Manager;

- Security Manager; and - Virus Manager.

The policy engine passes each SMTP message to the policy managers. Each policy manager invokes the policies it is responsible for, and recommends a message disposition. In addition, the policy managers might log events or send notifications. Some policy managers handle the same message multiple times for different purposes. After the message has been processed by all the policy managers, the policy engine uses the most restrictive disposition to determine whether or not the message should be delivered normally, dropped, returned to the sender, quarantined, deferred or redirected to another service.

The MMS Directory contains security policies and other information about users protected by MMS. It includes three types of objects: user records, domain records and folders. User records contain policies that apply to specific users, identified by their e-mail addresses. Domain records contain policies that apply to groups of users that belong to the same domain. Folders contain policies that apply to arbitrary groups of users, domains or other folders.

The following is a graphical illustration of the Tumbleweed MMS information flow.

[Flowchart]

Governmental Regulation

We are not currently subject to direct regulation by any domestic or foreign governmental agency, other than regulations applicable to businesses generally, and laws or regulations directly applicable to access to online commerce. However, due to the increasing popularity and use of the Internet and other online services, it is possible that a number of laws and regulations may be adopted with respect to the Internet or other online services covering issues such as user privacy, Internet transaction taxation, pricing, content, copyrights, distribution and characteristics and quality of products and services. Furthermore, the growth and development of the market for online commerce may prompt calls for more stringent consumer protection laws that may impose additional burdens on those companies conducting business online. For example, the Federal Communications Commission could determine

through one of its ongoing proceedings that the Internet is subject to regulation. Among other possible courses of action, the FCC may determine that Internet service providers are subject to certain access charges or fees for carrying Internet traffic over the public switched telephone network.

The adoption of any additional laws or regulations may decrease the growth of the Internet or other online services, which could, in turn, decrease the demand for our products and services and increase our cost of doing business, or otherwise have a material adverse effect on our business, financial condition and results of operations.

Permits or licenses may be required from federal, state, local or foreign governmental authorities to operate or to sell some products on the Internet. We may not be able to obtain these permits or licenses. We may be required to comply with future national and/or international legislation and statutes regarding conducting commerce on the Internet in all or specific countries throughout the world. It may not be possible to comply with this legislation or these statutes on a commercially reasonable basis, if at all.

In addition, our products rely on encryption and authentication technology licensed from third parties to provide the security and authentication necessary to achieve secure transmission of confidential information. Exports of software products utilizing encryption technology are generally restricted by the U.S. and various foreign governments. We have obtained approval to export products using up to 128-bit symmetric encryption and 1024-bit public key encryption, including IME Server, IME Desktop, IME Receive Applet, IME Remote API using OmniORD with SSL, MMS WorldWide/56 and MMS Strong WorldWide/128. We are not exporting other hardware, software or technology that is subject to export control under U.S. law. However, the list of countries and products for which exports are restricted and the related regulatory policies could be revised in the future, and we may not be able to obtain required government approvals

Intellectual Property

We have filed sixteen utility patent applications with the U.S. Patent and Trademark Office and may seek other patents in the future. To date, we have three issued U.S. patents--a utility patent relating to our fundamental web-based delivery method, a utility patent relating to secure messaging technology and a design patent relating to the user interface of our products. We have also filed twelve patent applications in foreign jurisdictions.

We regard our patents and similar intellectual property as critical to our success, and rely on patent law and confidentiality and/or license agreements with our employees, customers, partners and others to protect our proprietary rights. We currently have nine registered trademarks worldwide, including the mark Tumbleweed, and are pursuing other key trademarks and service marks in the U.S. and internationally. Despite these precautions, it may be possible for unauthorized third parties to copy particular portions of our products or reverse engineer or obtain and use information that we regard as proprietary. Some end-user license provisions protecting against unauthorized use, copying transfer and disclosure of the licensed program may be unenforceable under the laws of some jurisdictions and

foreign countries. In addition, the laws of some foreign countries do not protect proprietary rights, particularly software based patents, to the same extent as do the laws of the U.S. Our means of protecting our proprietary rights in the U.S. or abroad may not be adequate and competing companies may independently develop similar technology. In particular, we are currently engaged in litigation to enforce our intellectual property rights, which may not be successful and in any event will result in substantial expenditures of resources to pursue.

The status of U.S. patent protection in the software industry is not well defined and will evolve as the U.S. Patent and Trademark Office grants additional patents and as the Federal Courts further interpret software-based inventions. The status of foreign protection in the software industry is also not well-defined and evolving. Our patent applications may not be issued with the scope of the claims sought by us, if at all. Our products may infringe patents issued to third parties. In addition, because foreign patent applications are not published until 18 months after filing and patent applications in the U.S. are not publicly disclosed until the patent is issued, U.S. and/or foreign applications may have been filed by third parties that relate to our software products.

Third parties could claim infringement by us with respect to current or future products or services. We may increasingly be subject to claims of intellectual property infringement as the number of our competitors grows and the functionality of their products and services increasingly overlap with ours. Any of these claims, with or without merit, could be time consuming to defend, result in costly litigation, divert management's attention and resources, limit use of our services or require us to enter into royalty or license agreements. A successful claim of product infringement against us could harm our business and prospects.

Legal Proceedings

On March 3, 1999, we sued The docSpace Company, Inc. alleging infringement of our U.S. Patent No. 5,790,790. In its answer, docSpace raised counterclaims alleging, among other things, antitrust violations and unfair competition. On May 3, 1999, docSpace filed a summary judgment motion of non-infringement. On May 27, 1999, the court granted Tumbleweed's request to continue docSpace's summary judgment motion pending further discovery and indicated that docSpace's motion would be rescheduled. On July 14, 1999, the court issued a scheduling order stating that it would conduct a hearing on the proper interpretation of the claims of Tumbleweed's patent on September 24, 1999, and a hearing on any motions for summary judgement on the issue of infringement on November 1, 1999. The court also ordered that discovery on all issues other than claim construction and infringement would be stayed pending resolution of these issues. The court later rescheduled the claim interpretation hearing, which occurred on November 19, 1999.

On December 9, 1999, the court issued an order based on the claims construction hearing essentially adopting Tumbleweed's interpretation of the patent claims. Critical Path, Inc. acquired docSpace on March 9, 2000. On April 24, 2000, Tumbleweed filed a motion for summary judgment that all versions

of the docSpace "Express" system infringe our patent. On the same day, docSpace filed a motion for summary judgment that its current version of "Express" does not infringe our patent. On July 10, 2000, the court held a hearing on the parties' summary judgment motions.

Competition

Tumbleweed IME is an alternative to traditional mail and courier delivery services, such as those offered by Federal Express Corporation, UPS or the U.S. Postal Service, and to general purpose e-mail applications and services. As such, we compete with these options. Our direct competition comes from other secure online communication service providers of various sizes, some of which have products that are intended to compete directly with our products. Examples of secure online communication service providers include Automatic Data Processing, Inc., Critical Path, Inc., VeriCert.com, e-Parcel, LLC, PostX Corporation and ZixIt Corporation. In addition, companies with which we do not presently directly compete may become competitors in the future, either through the expansion of our products and services or through their product development in the area of secure online communication services. These companies could include America Online, Inc./Netscape Communications Corporation, International Business Machines Corporation/Lotus Development Corporation, Microsoft Corporation and VeriSign, Inc.

The market for our Tumbleweed MMS products is intensely competitive and subject to rapid changes. The enterprise security market is characterized by various products and solutions that compete with our Internet content security and policy management solutions. These include products offered by Content Technologies, Ltd. (which is partially owned by Integralis Technology, Ltd.) Trend Micro Incorporated, SRA International and TenFour AB. We anticipate competition in the future from other companies in the enterprise security market as the industry continues to grow.

The market for secure online communication services is new, rapidly evolving and highly competitive. The level of competition is likely to increase as current competitors improve their offerings and as new participants enter the market. Many of our current and potential competitors have longer operating histories, larger customer bases, greater brand recognition and significantly greater financial, marketing and other resources than us and may enter into strategic or commercial relationships with larger, more established and well-financed companies. Some of our competitors may be able to enter into these strategic or commercial relationships on more favorable terms. Additionally, these competitors have research and development capabilities that may allow them to develop new or improved products that may compete with product lines we market and distribute. New technologies and the expansion of existing technologies may increase competitive pressures on us. Furthermore, one of our service provider customers currently offers to end-users the choice between Tumbleweed's products and the products of one of our competitors, and other current and future customers may also offer end-users a similar choice. Increased competition may result in reduced operating margins as well as loss of market share and brand recognition. We may be unable to compete successfully against current and future competitors, and competitive pressures faced by us could harm our business and prospects.

Employees

As of March 31, 2000, we employed 258 people worldwide, including 69 in engineering, 97 in sales, 48 in professional services, 19 in marketing and 25 in corporate management and administration. Our employees are not represented by any collective bargaining organization. We have never experienced a work stoppage and consider our relations with our employees to be good.

Properties and Facilities

We lease approximately 40,000 square feet for our corporate headquarters located in Redwood City, California under a lease with a term of five years commencing June 8, 1999. We also lease approximately 30,000 square feet of office space in Santa Clara, California, the former headquarters of Worldtalk, under a lease scheduled to terminate in September 2005 and additional office space in New York, NY under a lease that expires in April 2005. We also maintain domestic sales offices in Redwood City, California; Santa Clara, California; New York, New York; Mount Laurel, New Jersey; Los Angeles, California; San Ramon, California; Chicago, Illinois; Redmond, Washington; Reston, Virginia; Charlotte, North Carolina and Dallas, Texas and international offices in Munich, Germany; Hurst, United Kingdom; Tokyo, Japan; Paris, France; Chatswood, Australia; Amersfoot, The Netherlands and Stockholm, Sweden.

Proposed Acquisition of Interface Systems, Inc.

On June 28, 2000, we entered into a merger agreement providing for the acquisition of Interface Systems, Inc. The acquisition is not expected to close until after the closing of this offering. The acquisition is subject to customary closing conditions, including approval by the shareholders of Interface. As a result, the acquisition may not close, and investors should not rely on the consummation of the Interface acquisition in purchasing the shares offered hereby.

The combination of Interface's L2i with Tumbleweed IME would give Tumbleweed customers a comprehensive, end-to-end solution for electronic statement presentment. Tumbleweed has announced its intention to divest the Cleo solutions group of Interface. Interface's L2i products and services simplify the process of transforming and using data found in legacy systems into electronic content that is easy to distribute and use online. The L2i products adapt legacy print streams and other data types to the Internet and intelligently convert them into formats such as Portable Document Format, HyperText Markup Language or eXtensible Markup Language for use online.

The Interface businesses other than L2i are comprised of the Cleo solutions group and IGK Indutries. These businesses comprised a substantial majority of the historical operating results of Interface, as more fully described in the pro forma financial statements included elsewhere in this prospectus. The Cleo solutions group has two major focuses: IBM mainframe connectivity and electronic commerce communications.

Interface elected to cease or discontinue several non-strategic components of the historical business. In May of 1998, Interface sold the assets of its wholly-owned subsidiary, Interface Systems International, Ltd., which was a United Kingdom based wholesale distributor of laser printers, personal computers, and supplies from third party manufacturers. Interface terminated the design and manufacturing of mainframe and midrange printers, and in June of 1999 sold the assets of its printer service business. In December of 1999, Interface sold IGK Industries, a manufacturer of printed circuit boards.

As of December 31, 1999, Interface employed approximately 109 employees. Interface's principal office occupies approximately 42,000 square feet located in Ann Arbor, Michigan that it owns.

Management

Executive Officers and Directors

The information table sets forth certain information with respect to our directors and executive officers as of March 31, 2000:

NAME TITLE AGE

Jeffrey C. Smith.....	Chairman, President and Chief Executive Officer	33
Pehong Chen.....	Director	41
Timothy C. Draper(2).....	Director	41
Eric J. Hautemont(1).....	Director	34
Kenneth R. Klein.....	Director	40
David F. Marquardt(1).....	Director	50
Standish H. O'Grady(2).....	Director	39
Jean-Christophe D. Bandini.....	Chief Technical Officer	36
Joseph C. Consul.....	Chief Financial Officer and Vice President--Finance	40
Kerry S. Champion.....	Senior Vice President--Product Development	37
Shomit A. Ghose.....	Senior Vice President--Operations	38
Bernard J. Cassidy.....	Vice President, General Counsel and Secretary	45
Michael J. Earhart.....	Vice President--Corporate Marketing	35
Donald R. Gammon.....	Vice President--North American Sales	54
Mark R. Pastore.....	Vice President--Corporate Development	33
Donald N. Taylor.....	Vice President--International Sales	46
Shinji Eura.....	President--Tumbleweed Communications, K.K.	64

(1) Member of the Compensation Committee (2) Member of the Audit Committee JEFFREY C. SMITH, President and Chief Executive Officer and Chairman of the Board of Directors, is responsible for strategic planning and business development. Before founding Tumbleweed in June 1993, Mr. Smith held various senior positions in research and development with the following firms: Frame Technology from January 1991 to June 1993; Aeon Corp. from January 1990 to January 1991; Hewlett Packard from June 1988 to June 1989; and IBM Scientific Research Center in Palo Alto from June 1987 to June 1988. Mr. Smith served as a lecturer in Software Engineering at Stanford University in 1988 and 1989. Mr. Smith holds a B.S. in Computer Science from Stanford University.

PEHONG CHEN has been a Director of Tumbleweed since December 1999. Dr. Chen has been the Chairman of the Board, Chief Executive Officer, and President of Broadvision, Inc. since its incorporation in May 1993. From 1992 to 1993, Dr. Chen served as the Vice President of Multimedia Technology at Sybase, a supplier of client-server software products. Dr. Chen founded and, from 1989 to 1992, served as President of Gain Technology, a provider of multimedia applications development systems, which was acquired by Sybase. He received a B.S. in Computer Science from National Taiwan University, an M.S. in Computer Science from Indiana University and a Ph.D. in Computer Science from the University of California at Berkeley.

TIMOTHY C. DRAPER has been a Director of Tumbleweed since August 1996. Mr. Draper is the Founder and Managing Director of Draper Fisher Jurvetson, formed in 1985. He currently serves on the boards of directors of PLX Technology, GoTo.com, and various private companies. Mr. Draper holds a B.S. in Electrical Engineering from Stanford University and an M.B.A. from Harvard Business School.

ERIC J. HAUTEMONT has been a Director of Tumbleweed since October 1996. Mr. Hautemont is Managing Director of Ridge Ventures LLC, a high technology venture fund dedicated to seed and early stage companies. Before starting Ridge Ventures in June 1998, Mr. Hautemont served as President of Fractal Design Corporation from June 1996 to January 1997. Before Fractal, Mr. Hautemont was co-founder, chairman and CEO of Ray Dream, Inc. from December 1989 to June 1996. He currently serves on the boards of directors of Xenote Corporation, Tincell Corporation and Luckysurf.com. Mr. Hautemont holds a M.Sc. in Computer Science and Applied Mathematics from Enseeiht, University of Toulouse, France.

KENNETH R. KLEIN has been a Director of Tumbleweed since February 2000. Mr. Klein has been Chief Operating Officer of Mercury Interactive since February of 2000. Prior to that he served as President, North American Operations from July 1998 to February 2000. From April 1995 to July 1998 he served as Vice President of North American Sales. From May 1992 to March 1995, he served as the Company's Western Area Sales Director. From March 1990 to May 1992, Mr. Klein served as Regional Sales Manager for Interactive Development Environments, a CASE tool company. Prior to that Mr. Klein served in a variety of engineering, sales and management roles in the software industry. Mr. Klein holds degrees in electrical engineering and biomedical engineering from the University of Southern California.

DAVID F. MARQUARDT has been a Director of Tumbleweed since August 1997. Mr. Marquardt is a founding General Partner of August Capital, L.P., formed in 1995, and has been a General Partner of various Technology Venture Investors entities, which are private venture capital limited partnerships, since August 1980. Mr. Marquardt is a director of Microsoft Corporation, Netopia, Inc. and various privately held companies. Mr. Marquardt received a B.S. in Mechanical Engineering from Columbia University and an M.B.A. from Stanford Graduate School of Business.

STANDISH H. O'GRADY has been a Director of Tumbleweed since August 1997. Mr. O'Grady has been a Managing Director of H&Q Venture Associates, LLC, a venture capital firm, since its inception in July 1998. He previously served in various positions with Hambrecht & Quist Group's venture

capital department since 1986, including Managing Director from 1994 to 1998. Earlier in his career, Mr. O'Grady was a process engineer with Intel Corporation. Mr. O'Grady is currently a director of various privately held companies. Mr. O'Grady holds a B.S.E. degree in Chemical Engineering from Princeton University and an M.B.A. from the Amos Tuck School of Business Administration at Dartmouth College.

JEAN-CHRISTOPHE D. BANDINI, Chief Technical Officer, serves as Tumbleweed's primary technical architect and oversees product development. Before founding Tumbleweed in 1993, Mr. Bandini was a Senior Software Engineer at Frame Technology from March 1991 to January 1993. Mr. Bandini's industry experience also includes engineering positions at Oracle from August 1989 to February 1991 and at IBM from March 1986 to October 1986. Mr. Bandini holds an Engineering Degree from Ecole Centrale Paris, and an M.S. in Computer Science from Stanford University.

JOSEPH C. CONSUL, Chief Financial Officer and Vice President--Finance, is responsible for finance, administration, legal and human resources at Tumbleweed. Before joining Tumbleweed in June 1997, Mr. Consul was Vice President, Operations for Fractal Design Corporation from May 1996 to May 1997. From November 1991 to May 1996, Mr. Consul served as Vice President, Finance and Administration, CFO for Ray Dream, Inc. Mr. Consul has also held senior financial management positions at XA Systems Corporation from December 1989 to November 1991 and at Adobe Systems Corporation from February 1987 to November 1989. Mr. Consul received his M.B.A. from the University of Southern California, his B.S. from San Jose State University and is a licensed C.P.A.

KERRY S. CHAMPION, Senior Vice President--Product Development, is responsible for all aspects of engineering, including development, quality assurance, documentation and information systems. Before joining Tumbleweed in March 1998, Mr. Champion served as Director of Engineering at Zentek Technology from January 1997 to December 1997 and served as a Senior Director of Engineering at BroadVision, Inc. from September 1995 to October 1996. Mr. Champion was one of the initial members of the Gain Technology engineering team from June 1989 to September 1995. Mr. Champion holds a B.S. in Business Administration, with a concentration in Quantitative Methods, from San Francisco State University.

SHOMIT A. GHOSE, Senior Vice President--Operations, is responsible for consulting services, customer support, marketing and company alliances. Before joining Tumbleweed in November 1998, Mr. Ghose served as Vice President of Engineering and Marketing at Caresoft, Inc. from March 1998 through November 1998 and as Vice President of Marketing at Sky Stream Corp. from October 1997 through February 1998. Mr. Ghose served as Vice President of Worldwide Consulting at BroadVision, Inc. from June 1995 through October 1997 and as Senior Director, Business Development, at nCUBE from April 1990 through June 1995. Mr. Ghose was an engineer at Sun Microsystems, Inc., from January 1986 to January 1989 and at Metaphor Computer Systems, a company later acquired by IBM, from February 1983 to January 1986. Mr. Ghose holds a B.A. in Computer Science from the University of California at Berkeley.

BERNARD J. CASSIDY, Vice President, General Counsel and Secretary, is responsible for the corporate and legal affairs of Tumbleweed. Before joining Tumbleweed in May 1999, Mr. Cassidy was in private practice at Wilson Sonsini Goodrich & Rosati from August 1992 to May 1999, and at Skadden, Arps, Slate Meagher & Flom LLP from September 1989 to July 1992. Mr. Cassidy holds a B.A. in Philosophy from Loyola University, an M.A. in Philosophy from the University of Toronto and a J.D. from Harvard Law School.

MICHAEL J. EARHART, Vice President--Corporate Marketing, is responsible for all aspects of marketing, including strategic planning, positioning, industry relations and demand creation. Before joining Tumbleweed in June 1998, Mr. Earhart served as Director of Marketing at Fabrik Communications from July 1996 to June 1998. He has also served as Business Development Director for Server Technologies at Oracle from February 1995 to July 1996, and held various management and strategic marketing positions at Hewlett-Packard from 1987 to 1995. Mr. Earhart holds a B.A. in Economics from the University of California at Santa Barbara.

DONALD R. GAMMON, Vice President--North American Sales, is responsible for revenue and customer relationships in North America. Before joining Tumbleweed in February 1999, Mr. Gammon served as Executive Vice President of PostX Corporation from May 1997 to December 1998. He has also held senior management positions at the following firms: Interlink Computer Sciences from July 1994 to May 1997; Interactive Systems from November 1987 to April 1999; Inference Corporation from December 1984 to October 1987; and Metier Management Systems from July 1981 to November 1984. Mr. Gammon holds a B.S. in Management/Marketing from Oklahoma State University.

MARK R. PASTORE, Vice President--Corporate Development, is responsible for strategic technology and marketing and sales alliances. Over the course of Mr. Pastore's tenure at Tumbleweed, he has been responsible for finance and operations, business development, and strategic planning and alliances. Before joining Tumbleweed in September 1993, Mr. Pastore held various strategic marketing and finance positions at Sun Microsystems, Inc. from March 1991 to August 1993. Mr. Pastore holds a B.S. in Values, Technology, Science, and Society from Stanford University.

DONALD N. TAYLOR, Vice President--International, is responsible for Tumbleweed's international sales organization, including our sales teams in Europe and Japan. Before joining Tumbleweed in January 1999, Mr. Taylor gained extensive experience in international marketing, sales, and operations, through a number of senior executive positions at the following firms: Prism Solutions from August 1995 to October 1998; Oracle from January 1994 to July 1995; Sun Microsystems from November 1991 to December 1993; Netwise from October 1989 to September 1991; and Ingres from January 1987 to August 1989. Mr. Taylor holds a B.A. in History from Williams College.

SHINJI EURA, President--Tumbleweed Communications, K.K., is responsible for the general management of our Japanese subsidiary. Before joining Tumbleweed in August 1998, Mr. Eura worked from July 1994 to August 1998 at DynaLab Japan Co., where he most recently served as a Director of Business Development. From April 1993 to June 1994, Mr. Eura served as a General Manager at I.S.T.

Co. From April 1991 to March 1993, Mr. Eura served as President of System Bank Corporation. From March 1990 to March 1991, Mr. Eura served as Executive Management Director of NIHON UNISYS. Mr. Eura holds a B.S. in Statistics from the Tokyo College of Science.

Classified Board of Directors

Our certificate of incorporation provides for a classified board of directors consisting of three classes of directors, each serving staggered three-year terms. As a result, a portion of our board of directors will be elected each year. Each of Jeffrey C. Smith, Dr. Pehong Chen and Kenneth R. Klein has been designated a Class I director whose term expires at the 2003 annual meeting of stockholders. Eric J. Hautemont and Timothy C. Draper have been designated Class II directors whose term expires at the 2001 annual meeting of stockholders. David F. Marquardt and Standish H. O'Grady have been designated Class III directors whose term expires at the 2002 annual meeting of stockholders.

Executive officers are appointed by the board of directors on an annual basis and serve until their successors have been duly elected and qualified. There are no family relationships among any of our directors, officers or key employees.

Board Committees

We have established an audit committee and a compensation committee. The audit committee reviews our internal accounting procedures and considers and reports to the board of directors with respect to other auditing and accounting matters, including the selection of our independent auditors, the scope of annual audits, fees to be paid to our independent auditors and the performance of our independent auditors. The audit committee consists of Messrs. Draper, Hautemont and O'Grady. The compensation committee reviews and recommends to the board of directors the salaries, benefits and stock option grants for all employees, consultants, directors and other individuals compensated by us. The compensation committee also administers our stock option and other employee benefit plans. The compensation committee consists of Messrs. Hautemont and Marquardt.

Director Compensation

We reimburse our non-employee directors for all out-of-pocket expenses incurred in the performance of their duties as directors of Tumbleweed. We currently do not pay fees to our directors for attendance at meetings or for their services as members of the board of directors.

On October 15, 1996 and September 15, 1998, the board of directors granted options to purchase an aggregate of 18,000 and 42,000 respectively, shares of common stock to Mr. Hautemont at an exercise price per share of $0.50. On May 27, 1999, the board of directors granted an option to purchase an aggregate of 60,000 shares of common stock to each continuing director at an exercise price per share of $12.00. On December 1, 1999, Dr. Chen was granted an option to purchase 15,000 shares pursuant to the automatic grant provisions to non-employee directors contained in the Plan at an exercise price

per share of $39.75. Also on December 1, 1999 the Board of Directors granted Dr. Chen an option to purchase an additional 85,000 shares at an exercise price per share of $39.75. On February 29, 2000, Kenneth R. Klein was granted an option to purchase 15,000 shares pursuant to the automatic grant provisions to non-employee directors contained in the Plan at an exercise price per share of $71.50. Also on February 29, 2000 the Board of Directors granted Mr. Klein an option to purchase an additional 85,000 shares at an exercise price per share of $71.50, and on May 1, 2000 the Board of Directors granted Mr. Klein an option to purchase an additional 40,000 shares at an exercise price per share of $31.75.

Each non-employee director elected to the board of directors for the first time will receive upon election an initial grant of options to purchase 15,000 shares of common stock at fair market value on the date of grant as well as an annual grant of options to purchase 5,000 shares for each year during the director's term. All of the foregoing options will have a five-year term and will vest immediately. The foregoing award of options will be granted automatically under our 1999 Omnibus Stock Incentive Plan.

Compensation Committee Interlocks and Insider Participation

No member of the compensation committee of Tumbleweed serves as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

Executive Compensation

The following table indicates information concerning compensation of our Chief Executive Officer and our four most highly compensated executive officers other than the Chief Executive Officer whose salary and bonus exceeded $100,000 for the year ended December 31, 1999.

Summary Compensation Table

		ANNUAL COMPENSATION			
NAME AND PRINCIPAL POSITION	YEAR	SALARY ($)	BONUS ($)	OTHER ($)	OPTIONS LONG-TERM COMPENSATION AWARDS
Jeffrey C. Smith Founder, Chairman, President and Chief Executive Officer.....	1999	142,708	14,375	--	60,000
Donald R. Gammon Vice President-North American Sales.....	1999	150,167	71,277	--	205,000
Shomit A. Ghose Senior Vice President-Operations.....	1999	177,876	61,380	--	90,000
Robert A. Krauss Vice President-Business Development.....	1999	125,500	83,619	--	42,000
Donald Taylor Vice President-International.....	1999	163,050	144,651	13,035	195,000

Option Grants in Last Fiscal Year

The following table provides information concerning grants of options to purchase our common stock made during the fiscal year ended December 31, 1999 to the named executive officers.

In the fiscal year ended December 31, 1999, we granted options to purchase up to an aggregate of 2,503,500 shares to employees, directors and consultants. Most of these options were granted under our 1993 stock option plan at exercise prices equal to the fair market value of our common stock on the date of grant, as determined in good faith by the board of directors. All options have a term of ten years. Most option shares vest over four years, with 25% of the option shares vesting one year after the option grant date, and the remaining option shares vesting ratably each month for the next 36 months.

The potential realizable values are based on an assumption that the price of our common stock will appreciate at the compounded annual rate shown from the date of grant until the end of the option term. These values do not take into account amounts required to be paid as income taxes under the Internal Revenue Code and any applicable state laws or option provisions providing for termination of an option following termination of employment, non-transferability or vesting. These amounts are calculated based on the requirements promulgated by the Securities and Exchange Commission and do not reflect our estimate of future stock price growth of the shares of our common stock.

With respect to the named executive officers, the option agreements of Donald Gammon, Shomit Ghose and Donald Taylor provide for the acceleration of a portion of their stock options upon the occurrence of specified changes in control of Tumbleweed.

	INDIVIDUAL GRANTS				POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATE OF STOCK PRICE APPRECIATION FOR OPTION TERM	
NAME	NUMBER OF SECURITIES UNDERLYING OPTION GRANTED(#)	PERCENT OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN FISCAL YEAR	EXERCISE PRICE ($/SHARE)	EXPIRATION DATE	5%($)	10%
Jeffrey C. Smith.....	60,000	2.4%	12.00	2009	$1,172,804	$1,827,495
Donald R. Gammon.....	195,000	7.8%	0.80	2009	$ 254,108	$ 404,624
	10,000	0.4%	22.00	2009	$ 358,257	$ 570,623
Shomit A. Ghose.....	10,000	0.4%	0.80	2009	$ 13,031	$ 20,750
	80,000	3.2%	22.00	2009	$2,866,855	$4,564,987
Robert A. Krauss.....	10,000	0.4%	0.50	2009	$ 8,144	$ 12,969
	20,000	0.8%	0.80	2009	$ 26,062	$ 41,500

	12,000	0.5%	12.00	2009	$ 234,561
$ 373,499					
Donald N. Taylor.....	140,000	5.6%	0.50	2009	$ 114,023
$ 181,562					
	30,000	1.2%	0.80	2009	$ 39,093
$ 62,250					
	25,000	1.0%	22.00	2009	$ 895,892
$1,426,558					

Aggregated Option Exercises in Last Fiscal Year and Fiscal Year-end Option Values

The following table describes for the named executive officers the exercisable and unexercisable options held by them as of December 31, 1999. No options were exercised by the named executive officers during the fiscal year ended December 31, 1999.

			NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS HELD AT FISCAL YEAR-END(#)		VALUE OF IN-THE-MONEY OPTIONS AT FISCAL YEAR-END($)	
NAME	SHARES ACQUIRED ON EXERCISE(#)	REALIZED($)	EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE

Jeffrey C. Smith..... -- -- -- 60,000 -- 4,365,000 Donald R. Gammon..... -- -- 36,978 168,022 3,104,303 13,893,447 Shomit A. Ghose..... -- -- 65,000 265,000 5,476,250 20,603,250 Robert A. Krauss..... -- -- 54,373 67,627 4,580,925 5,553,574 Donald N. Taylor..... -- -- -- 195,000 -- 15,882,250 The "Value of Unexercised In-the-Money Options at Fiscal Year End" is based on a value of $84.75 per share, the fair market value of our common stock as of December 31, 1999, as determined by the board of directors, less the per share exercise price, multiplied by the number of shares issued upon exercise of the option. All options were granted under our 1993 stock option plan.

Employment Agreements

Except as described below, we have not entered into employment agreements with our named executive officers, and their employment may be terminated at any time at the discretion of our board of directors.

Effective January 7, 1999, we entered into an employment agreement with Donald Taylor. The agreement provides for a base salary of $185,000 per year, plus a bonus dependent upon the attainment of specified sales targets. The minimum guaranteed bonus is $6,000 for each of the first six months of employment. In addition, Mr. Taylor was granted options to purchase 140,000 shares of common stock. Mr. Taylor's employment is terminable without cause on six months prior written notice.

Equity Incentive Plans

1993 Stock Option Plan

The 1993 stock option plan was adopted by our board of directors on September 30, 1993, and approved by our stockholders on the same date for the benefit of our officers, directors and consultants. This plan has been amended, most recently on August 3, 1999 to approve an additional 150,000 shares of common stock for issuance under this plan, and this amendment was concurrently approved by our stockholders. This plan provides for the grant of incentive stock options and nonstatutory stock options. An aggregate of 3,768,500 shares of common stock is reserved for issuance under this plan. As of August 3, 1999, we had granted options to purchase an aggregate of 3,747,016 shares of common stock under this plan. We have not granted options under this plan since our initial public offering.

In the event of certain mergers or consolidations of Tumbleweed, outstanding options will be assumed or similar options substituted. In the event outstanding options are not assumed or substituted for, these options will terminate if not exercised before the event. In the event of a dissolution or liquidation of Tumbleweed, outstanding options will terminate if not exercised before these events.

1999 Omnibus Stock Incentive Plan.

The 1999 Omnibus Stock Incentive Plan was adopted by our board of directors on May 27, 1999 and approved by our stockholders on June 22, 1999 for the benefit of our officers, directors, employees, advisors and consultants. This plan was amended with shareholder approval on May 15, 2000 to annually increase the total number of shares reserved for issuance under the plan. This plan now covers an aggregate of 4,381,500 shares of common stock, plus an annual increase to be added on the first day of our fiscal year beginning in 2001 equal to the lesser of (a) 2,000,000 shares or (b) five percent (5%) of the number of outstanding shares on the last day of the immediately preceding fiscal year. As of March 31, 2000, options to purchase an aggregate of 1,712,110 shares of common stock with a weighted-average exercise price of $40.43 were outstanding under this plan. This plan provides for the issuance of stock-based incentive awards, including stock options, stock appreciation rights, limited stock appreciation rights, restricted stock, deferred stock and performance shares. An award may consist of one such arrangement or benefit or two or more of them in tandem or in the alternative. Under this plan, awards covering no more than 80% of the shares reserved for issuance under the plan may be granted to any participant in any one year.

This plan is administered by the compensation committee, although it may be administered by either our board of directors or any committee of our board of directors. The group authorized to administer the plan is sometimes referred to as the plan administrator. The plan administrator may interpret this plan and may prescribe, amend and rescind rules and make all other determinations necessary or

desirable for the administration of this plan. This plan permits the plan administrator to select the officers, directors, key employees, advisors and consultants who will receive awards and generally to determine the terms and conditions of those awards.

We may issue two types of stock options under this plan: incentive stock options, which are intended to qualify under the Internal Revenue Code of 1986, as amended, and non-qualified stock options. The option price of each incentive stock option granted under this plan must be at least equal to the fair market value of a share of common stock on the date the incentive stock option is granted.

Stock appreciation rights and limited stock appreciation rights may be granted under this plan either alone or in conjunction with all or part of any stock option granted under this plan. A stock appreciation right granted under this plan entitles its holder to receive, at the time of exercise, an amount per share equal to the excess of the fair market value of a share of common stock at the date of exercise over a specified price fixed by the plan administrator. A limited stock appreciation right granted under this plan entitles its holder to receive, at the time of exercise, an amount per share equal to the excess of the change in control price of a share of common stock over a specified price fixed by the plan administrator. A limited stock appreciation right may only be exercised within the 30-day period following a change in control.

Restricted stock, deferred stock and performance shares may be granted under this plan. The plan administrator will determine the purchase price, performance period and performance goals, if any, with respect to the grant of restricted stock, deferred stock and performance shares. Participants with restricted stock and preferred shares generally have all of the rights of a stockholder. During the deferral period, the deferred stock units may be credited with dividend equivalent rights, subject to the terms and conditions imposed by the plan administrator. If the performance goals and other restrictions are not attained, the participant will forfeit his or her shares of restricted stock, deferred stock and/or performance shares.

In the event of a merger, consolidation, reorganization, recapitalization, stock dividend or other change in corporate structure affecting the number of issued shares of common stock, the plan administrator may make adjustments to the terms of the plan. In particular, the plan administrator may make an equitable substitution or proportionate adjustment in the number and type of shares authorized by this plan, the number and type of shares covered by, or with respect to which payments are measured under, the plan outstanding awards and the exercise prices. In addition, the plan administrator, in its discretion, may terminate all awards with payment of cash or in-kind consideration.

The terms of this plan provide that the plan administrator may amend, suspend or terminate this plan at any time, provided, however, that some amendments require approval of our stockholders. Further, no action may be taken which adversely affects any rights under outstanding awards without the holder's consent.

Each non-employee director elected to the board of directors for the first time will receive upon this election an initial grant of options to purchase 15,000 shares of common stock at fair market value on the date of grant. These non-employee directors will also receive an annual grant of options to

purchase 5,000 shares for each year during the director's term. All of the foregoing options will have a five-year term and will vest immediately. The foregoing award of options will be granted automatically under this plan.

2000 Nso Incentive Stock Plan

Our 2000 NSO Incentive Stock Plan was adopted by our board of directors on July 10, 2000. This plan qualifies as a "broadly based" plan for purposes of the rules promulgated by the National Association of Securities Dealers, Inc. This plan is for the benefit of our officers, directors, employees, advisors and consultants and provides for the issuance of stock-based incentive awards, including stock options, stock appreciation rights, restricted stock, deferred stock, and performance shares or any combination of the foregoing. An aggregate of 500,000 shares of common stock was reserved for issuance under this plan.

This plan is administered by our board of directors, although it may be administered by either our board of directors or any committee appointed by our board of directors. The plan administrator may interpret the plan and may prescribe, amend and rescind rules, make all other determinations necessary or desirable for the administration of the plan and generally to determine the terms and conditions of awards granted under the plan. Employees, advisors and consultants of ours or of any parent or subsidiary (other than any officer or director of ours or of any parent or subsidiary) and those individuals who first become an officer or director of ours or of any parent or subsidiary following July 10, 2000, are eligible to receive awards under this plan.

We may issue non-qualified stock options, or NSOs, under the plan. The stock options granted under the plan are not intended to qualify as "incentive stock options" within the meaning of Section 422 of the Internal Revenue Code of 1986. The option price of each stock option granted under the plan must be at least equal to the par value of a share of common stock on the date the stock option is granted.

Stock appreciation rights, or SARs, may be granted under the plan either alone or in conjunction with all or part of any stock option granted under the plan. An SAR granted under the plan entitles its holder to receive, at the time of exercise, an amount per share equal to the excess of the fair market value (at the date of exercise) of a share of common stock over a specified price fixed by the plan administrator.

Restricted stock, deferred stock and performance shares may be granted under the plan. The plan administrator will determine the purchase price, performance period and performance goals, if any, with respect to the grant of restricted stock, deferred stock and performance shares. Participants with restricted stock and preferred shares generally have all of the rights of a stockholder. With respect to deferred stock, during the deferral period, subject to the terms and conditions imposed by the plan administrator, the deferred stock units may be credited with dividend equivalent rights. If the performance goals and other restrictions are not attained, the participant will forfeit his or her shares of restricted stock, deferred stock and/or performance shares.

In the event of any merger, reorganization, consolidation, recapitalization, stock dividend or other change in corporate structure affecting our stock, the plan administrator, in its sole discretion, will make equitable substitution or proportionate adjustments in (i) the aggregate number of shares of our stock reserved for issuance under the plan, (ii) the kind, number and option price of shares of our stock subject to outstanding stock options granted under the plan and (iii) the kind, number and purchase price of shares of our stock subject to outstanding awards of restricted stock, deferred stock and performance shares granted under the plan. In connection with any event described in this paragraph, the plan administrator may provide, in its sole discretion, for the cancellation of any outstanding awards and payment in cash or other property therefor.

The terms of the plan provide that the plan administrator may amend, suspend or terminate the plan at any time. Further, no action may be taken which adversely affects any rights under outstanding awards without the holder's consent. The plan will terminate on July 10, 2010.

1999 Employee Stock Purchase Plan

The board of directors adopted our 1999 employee stock purchase plan, which was approved by our board of directors on May 27, 1999 and approved by our stockholders on June 25, 1999, which allows eligible employees to purchase our common stock at a discount from fair market value. A total of 500,000 shares of common stock has been reserved for issuance under this plan for each fiscal year occurring during the term of the plan.

This plan will be administered by our board of directors, or a specifically designated committee of the board of directors, which group is sometimes referred to as the plan administrator. The plan administrator may interpret the plan and may prescribe, amend and rescind rules and make all other determinations necessary or desirable for the administration of the plan, subject to the provisions of the plan.

This plan contains offering periods that commence on the first trading day on or after May 15 and November 15 of each year and end on the last trading day before the commencement of the next offering period. Employees are eligible to participate if they are employed by us or any participating subsidiary for at least 20 hours per week and more than five months in any calendar year. However, an employee may not be granted the right to purchase stock under this plan if the employee - immediately after the grant would own stock possessing 5% or more of the total combined voting power or value of all classes of our capital stock, or - holds rights to purchase stock under any of our employee stock purchase plans that together accrue at a rate which exceeds $25,000 worth of stock for each calendar year.

This plan permits each employee to purchase common stock through payroll deductions of up to 15% of the employee's "compensation." Compensation is defined as the employee's base salary, exclusive of any bonus, fee, overtime pay, severance pay, expenses or other special emolument or any credit or benefit under any of our employee plans. The maximum number of shares an employee may purchase during a single offering period is 2,500 shares.

Amounts deducted and accumulated by the employee are used to purchase shares of common stock at the end of each offering period. The price of the common stock offered under this plan is an amount equal to 85% of the lower of the fair market value of the common stock at the beginning or at the end of each offering period. Employees may end their participation in this plan at any time during an offering period. In that event, any amounts withheld through payroll deductions and not otherwise used to purchase shares will be returned to them. Participation ends automatically upon termination of employment with us.

Rights granted under this plan are not transferable by an employee other than by will or the laws of descent and distribution. This plan provides that, in the event of a merger, consolidation, reorganization, recapitalization, stock dividend or other change in corporate structure affecting the number of issued shares of our common stock, the plan administrator will conclusively determine the appropriate equitable adjustments. This plan will terminate in 2009. Our board of directors has the authority to amend or terminate this plan, except that no amendment or termination may adversely affect any outstanding rights under this plan.

Limitation of Liability and Indemnification

Our certificate of incorporation includes provisions that eliminate the personal liability of our directors for monetary damages for breach of fiduciary duty as a director, except for liability:

- for any breach of the director's duty of loyalty to us or our stockholders;

- for acts or omissions not in good faith or that involved intentional misconduct or a knowing violation of law;

- under Section 174 of the Delaware law; or - for any transaction from which the director derives an improper personal benefit.

Our certificate of incorporation and bylaws further provide for the indemnification of our directors and officers to the fullest extent permitted by Section 145 of the Delaware law, including circumstances in which indemnification is otherwise discretionary. Indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of Tumbleweed under the foregoing provisions, or otherwise. Tumbleweed has been advised that in the opinion of the Securities and Exchange Commission this indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

We have entered into agreements to indemnify our directors and executive officers in addition to the indemnification provided for in our charter and bylaws. These agreements, among other things, provide for indemnification of our directors and executive officers for expenses, judgements, fines and settlement amounts incurred by any of these people in any action or proceeding arising out of his or her services as a directors or executive officer or at our request. We believe that these provisions and agreements are necessary to attract and retain qualified people as directors and executive officers.

Certain Relationships and Related Transactions

Since January 1, 1996, there has not been, nor is there currently proposed, any transaction or series of similar transactions to which we were or are to be a party in which the amount involved exceeds $60,000 and in which any director, executive officer or holder of more than 5% of our common stock, or an immediate family member of any of the foregoing, had or will have a direct or indirect interest other than:

- compensation arrangements, which are described above; and - the transactions described below.

SERIES C PREFERRED STOCK FINANCING ROUND. In February and May 1999, we sold shares of Series C preferred stock, at a purchase price of $3.58 per share, to the following investors, among others:

- 3,914,989 shares of Series C preferred stock to Hikari Tsushin, Inc.;

- 1,118,569 shares of Series C preferred stock to United Parcel Service General Services Co.;

- 165,093 shares of Series C preferred stock to August Capital, L.P.;

- 154,351 shares of Series C preferred stock to Draper Fisher Associates Fund III, or to entities affiliated with it; and - 112,159 shares of Series C preferred stock to Adobe Ventures II, L.P.

SERIES B PREFERRED STOCK FINANCING ROUND. In August and September 1997, we sold shares of Series B preferred stock, at a purchase price of $1.99 per share, to the following investors, among others:

- 1,762,336 shares of Series B preferred stock to August Capital, L.P.

- 427,996 shares of Series B preferred stock to Draper Fisher Associates Fund III.

- 1,258,812 shares of Series B preferred stock to Adobe Ventures II, L.P.

- 12,588 shares of Series B preferred stock to Jeffrey C. Smith, our President and Chief Executive Officer, and Chairman of our board of directors.

Hikari Tsushin, Inc. is a 5% or greater shareholder of us. In August 1999, in connection with our initial public offering, Hikari was allocated and purchased 400,000 shares of our common stock at $12.00 per share.

HIKARI LICENSE AGREEMENT. On March 31, 1999, we entered into a one-year license and distribution agreement with Hikari Tsushin, Inc. Between March 31, 1999 and August 31, 1999, Tumbleweed recognized approximately $769,700 of revenue which was associated with the perpetual license fee, transaction fees and distribution rights and which was paid by Hikari to Tumbleweed KK, at that time a wholly-owned Japanese subsidiary of Tumbleweed.

CHANGES IN OWNERSHIP OF SUBSIDIARY. On August 31, 1999, Tumbleweed KK sold 200 shares of its common stock, representing a 50% ownership interest in Tumbleweed KK, to Hikari for Y350,000,000 (which approximated $3.2 million as of August 31, 1999). Following Hikari's

investment, Hikari and Tumbleweed had equal board representation in Tumbleweed KK. On May 15, 2000, Tumblweed repurchased from Hikari 5% of the outstanding stock of Tumbleweed KK, for a price of Y70,000,000 (which approximated $700,000 as of May 15, 2000).

LEGAL COUNSEL. Gregory C. Smith, a brother of Jeffrey C. Smith (the President, Chief Executive Officer and Chairman of the Board of Directors of Tumbleweed), is a partner of the law firm of Skadden, Arps, Slate, Meagher & Flom LLP, which began providing legal services to Tumbleweed in July 1998 and is advising Tumbleweed in the offering. Before that time, Gregory Smith was a partner of the law firm of Cooley Godward LLP, which provided legal services to Tumbleweed as well. During the year ended December 31, 1999, the total fees paid to Skadden, Arps was approximately $1.1 million. The total fees paid to Skadden, Arps in 1998 was $11,281. The total fees paid to Cooley Godward in 1998 and 1997 were $326,442 and $174,515 respectively. Gregory Smith acted as Secretary of Tumbleweed during 1997, 1998 and part of 1999.

INVESTMENT BANKING. Curtis H. Smith, a brother of Jeffrey C. Smith (the President, Chief Executive Officer and Chairman of the Board of Directors of Tumbleweed), is a Vice President at Credit Suisse First Boston, the lead underwriter of this offering and financial advisor to Tumbleweed in connection with the acquisition of Worldtalk. Previously, Curtis H. Smith was an Associate at ING Barings, a co-manager in Tumbleweed's initial public offering. Credit Suisse First Boston will receive a customary portion of the aggregate discount and commissions of this offering, as set forth on the cover page of this prospectus, and ING Barings received a customary portion of the aggregate discounts and commissions in the initial public offering, as set forth on the cover page of that prospectus. Credit Suisse First Boston received a customary fee of approximately $3 million in connection with the Worldtalk acquisition.

INVESTORS' RIGHTS AGREEMENT. We have entered into an investors' rights agreement with all of the purchasers of preferred stock, our founders and certain persons or entities which acquired shares of its common stock in connection with its acquisition of Worldtalk. The agreement provides for registration rights in favor of such persons.

INDEMNITY AGREEMENTS. We have entered into indemnity agreements with each of our officers and directors.

Principal and Selling Stockholders

The following table sets forth certain information with respect to beneficial ownership of our common stock before and after the offering by:

- Each person or entity who beneficially owns more than 5% of our common stock;

- Each of our named executive officers;

- Each of our directors;

- All executive officers and directors as a group; and - All other selling stockholders.

Information with respect to beneficial ownership has been furnished by each director, officer, selling stockholder, or 5% or more stockholder, as the case may be. Except as otherwise noted below, the address for each person listed on the table is c/o Tumbleweed Communications Corp., 700 Saginaw Drive, Redwood City, California 94063. Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission. These rules generally attribute beneficial ownership of securities to persons who posses sole or shared voting power or investment power with respect to those securities and include shares of common stock issuable upon the exercise of stock options or warrants that are immediately exercisable or exercisable within 60 days. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Percentage ownership calculations are based on 26,270,104 shares of common stock outstanding as of June 30, 2000, and 27,770,104 shares of common stock outstanding after the completion of this offering. To the extent that any shares are issued upon exercise of options, warrants or other rights to acquire our capital stock that are presently outstanding or granted in the future or reserved for future issuance under our stock plans, there will be further dilution to new public investors.

BENEFICIAL OWNER	SHARES BENEFICIALLY OWNED PRIOR TO OFFERING			SHARES BENEFICIALLY OWNED SUBSEQUENT TO OFFERING	
	NUMBER OF SHARES	PERCENT OF TOTAL	NUMBER OF SHARES BEING OFFERED	NUMBER OF SHARES	PERCENT OF TOTAL
FMR Corp.....	2,790,800	10.6	0	2,790,800	10.0
82 Devonshire Street Boston, Massachusetts 02109					
Hikari Tsushin, Inc.....	1,952,314	7.4	1,200,000	752,314	2.7
22F Ohtemachi Nomura Bldg. 2-1-1 Ohtemachi, Chiyoda-ku, Tokyo, Japan					
Jeffrey C. Smith.....	1,696,877(4)(6)	6.5	100,000	1,596,877(4)(6)	5.8
Jean-Christophe D. Bandini.....	1,978,580	7.3	80,000	1,898,580	6.8
Donald N. Taylor.....	47,820(6)	*	20,000	27,820(6)	*
Shomit A. Ghose.....	92,324(6)	*	20,000	72,324(6)	*
Donald R. Gammon.....	87,794(5)(6)	*	0	87,794(5)(6)	*
Robert A. Krauss.....	39,706(6)	*	0	39,206(6)	*
Pehong Chen.....	15,000(6)	*	0	15,000(6)	*
Kenneth Klein.....	15,000(6)	*	0	15,000(6)	*
Tim Draper.....	382,219(2)(6)	1.5	0	382,219(2)(6)	1.3
Eric Hautemont.....	68,241(6)	*	0	68,241(6)	*
David Marquardt.....	308,544(6)	1.2	0	308,544(6)	1.1

Standish O'Grady	129,036(3)(6)	*	0	129,036(3)(6) *
Additional selling stockholders, each holding less than 1% of our outstanding common stock prior to this offering....	537,039(7)	2.0	80,000	457,039(7) 1.6

* Less than 1% of the outstanding shares of common stock.

(1) This table is based upon information supplied by officers, directors and principal stockholders and Schedules 13D and 13G, if any, filed with the Securities and Exchange Commission. Unless otherwise indicated in the footnotes to this table and subject to community property laws where applicable, the Company believes that each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 26,270,104 outstanding shares on June 30, 2000 adjusted as required by rules promulgated by the SEC.

(2) Includes 159,858 Shares held by Draper Associates, L.P. Voting and dispositive power over the shares is held by all the general partners of Draper Fisher Jurvetson. Mr. Draper is Managing Director at Draper Fisher Jurvetson and as such may be deemed to share voting and investment power with respect to these shares. However, Mr. Draper disclaims beneficial ownership of all these shares, except to the extent of his pecuniary interest arising from his interest in these entities.

(3) Voting and dispositive power over the 10,007 shares held by H&Q Tumbleweed Investors, L.P. is held by all members of H&Q Venture Associates, L.L.C. Voting and dispositve power over 76,141 shares held by H&Q Venture Associates, L.L.C. is held by all its members. Mr. O'Grady is a member of H&Q Venture Associates, L.L.C. and may be deemed to share voting and investment power with respect to these shares. However, Mr. O'Grady disclaims beneficial ownership of all of these shares, except to the extent of his pecuniary interest arising from his interest in these entities.

(4) Includes 260,000 shares held by the Jeffrey C. Smith 1999 Annuity Trust. Mr. Smith is the sole trustee of the trust.

(5) Includes 500 shares held by Donald R. Gammon; 500 shares held by Bonnie I. Gammon; 500 shares held by Erin A. Gammon; and 500 shares held by Morgan L. Gammon.

(6) The following table indicates those people whose total number of beneficially owned shares include shares subject to options exercisable within 60 days of June 30, 2000:

Shares Subject to Options

Jeffrey C. Smith	15,000
Donald N. Taylor	41,041
Shomit A. Ghose	92,041
Donald R. Gammon	73,125
Robert A. Krauss	34,706
Pehong Chen	15,000
Kenneth Klein	15,000
Tim Draper	15,000
Eric Hautemont	38,125

David Marquardt	15,000
Standish O'Grady	15,000

(7) Includes shares issuable upon the exercise of stock options exercisable within 60 days of June 30, 2000.

Section 16 Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), requires the Company's directors and executive officers, and persons who own more than ten percent of a registered class of the Company's equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of the Company. Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) forms they file.

To the Company's knowledge, based solely on a review of the copies of such reports furnished to the Company and written representations that no other reports were required, during the fiscal year ended December 31, 1999, all Section 16(a) filing requirements applicable to its officers, directors and greater than ten percent beneficial owners were complied with, except that a Form 5 was filed in March 2000 for each of Bernard Cassidy, Kerry Champion, Joseph Consul, Donald Gammon and Donald Taylor, to reflect an October 1999 option grant to each such person.

Description of Capital Stock

Our certificate of incorporation authorizes the issuance. Upon the consummation of this offering, we will be authorized to issue 100,000,000 shares of common stock, $0.001 par value per share, and 10,000,000 shares of preferred stock, $0.001 par value per share. The following description summarizes information regarding our capital stock. This information does not purport to be complete and is subject in all respects to the applicable provisions of the Delaware General Corporation Law, our certificate of incorporation and our bylaws.

Common Stock

Each share of common stock entitles the holder to one vote on all matters submitted to a vote of stockholders, including the election of directors. Holders of common stock are entitled to receive ratably the dividends, if any, declared from time to time by the board of directors out of legally available funds. Holders of common stock have no conversion, redemption or preemptive rights to subscribe to any of Tumbleweed's securities. In the event of any liquidation, dissolution or winding-up of our affairs, holders of common stock will be entitled to share ratably in our assets remaining after provision for payment of liabilities to creditors. The rights, preferences and privileges of holders of common stock are subject to the rights of the holders of any shares of preferred stock which we may issue in the future.

Preferred Stock

The board of directors has the authority, without action by the stockholders, to designate and issue preferred stock in one or more series and to designate the rights, preferences and privileges of each series, which may be greater than the rights of the common stock. We cannot predict the effect of the issuance of any shares of preferred stock upon the rights of holders of the common stock until the board of directors determines the specific rights of the holders of the preferred stock. However, the effects could include one or more of the following:

- restricting dividends on the common stock;

- diluting the voting power of the common stock;

- impairing the liquidation rights of the common stock; or - delaying or preventing a change in control of us without further action by the stockholders.

Upon the consummation of this offering, no shares of preferred stock will be outstanding, and we have no present plans to issue any shares of preferred stock.

Registration Rights

Some of our stockholders have rights with respect to the registration of their shares under the Securities Act of 1933, as amended. Under the terms of the agreements providing registration rights, if Tumbleweed proposes to register any of its securities under the Securities Act, either for its own account or for the account of other security holders exercising registration rights, these holders are entitled to notice of this registration and are entitled to include shares of common stock in the registration. The rights are subject to conditions and limitations, among them the right of the underwriters of an offering subject to the registration to limit the number of shares included in the registration. These registration rights have been waived with respect to this offering. Holders of these rights may also require Tumbleweed to file a registration statement under the Securities Act at its expense with respect to their shares of common stock, and Tumbleweed is required to use its best efforts to effect this registration, subject to conditions and limitations. Furthermore, stockholders with registration rights may require Tumbleweed to file additional registration statements on Form S-3, subject to conditions and limitations.

Delaware Anti-takeover Law

We are subject to Section 203 of the Delaware General Corporation Law, an anti-takeover law. Generally, Section 203 of the Delaware General Corporation Law prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- before the date of the business combination, the transaction is approved by the board of directors of the corporation, - upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owns at least 85% of the outstanding stock, or - on or after the date the business combination is approved by the board and by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

A "business combination" includes mergers, asset sales and other transactions resulting in a financial benefit to the stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years, did own 15% or more of the corporation's voting stock. The existence of this provision would be expected to have an anti-takeover effect with respect to transactions not approved in advance by our board of directors, including discouraging attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Transfer Agent and Registrar

Equiserve L.P. will serve as Transfer Agent and Registrar for our common stock. Its phone number is (781) 575-2000.

Listing

Our common stock has been approved for quotation and trading on the Nasdaq Stock Market's National Market under the trading symbol "TMWD."

Underwriting

Under the terms and subject to the conditions contained in an underwriting agreement dated , we and the selling stockholders have agreed to sell to the underwriters named below, for whom Credit Suisse First Boston Corporation, Bear, Stearns & Co. Inc., Dain Rauscher Incorporated and U.S. Bancorp Piper Jaffray Inc. are acting as representatives, the following respective numbers of shares of common stock:

Number Underwriter of Shares

Credit Suisse First Boston Corporation..... Chase Securities Inc..... Dain Rauscher Incorporated..... U.S. Bancorp Piper Jaffray Inc..... ING Barings LLC..... Total..... 3,000,000 The underwriting agreement provides that the underwriters are obligated to purchase all the shares of common stock in the offering if any are purchased, other than those shares covered by the over-allotment option described below. The underwriting agreement also provides that if an underwriter defaults the purchase commitments of non-defaulting underwriters may be increased or the offering of common stock may be terminated.

A selling stockholder has granted to the underwriters a 30-day option to purchase up to 450,000 additional shares at the public offering price less underwriting discounts and commissions. The option may be exercised only to cover any over-allotments of common stock.

The underwriters proposes to offer the shares of common stock initially at the public offering price on the cover page of this prospectus and to selling group members at that price less a concession of $ per share. The underwriters and selling group members may allow a discount of $ per share on sales to other broker/dealers. After the initial public offering, the public offering price and concession and discount to broker/dealers may be changed by the representatives.

The following table summarizes the compensation and estimated expenses we and the selling stockholders will pay.

	PER SHARE		TOTAL	
	WITHOUT OVER-ALLOTMENT	WITH OVER-ALLOTMENT	WITHOUT OVER-ALLOTMENT	WITH OVER-ALLOTMENT
Underwriting Discounts and Commissions paid by us	$	$	$	$
Expenses payable by us	$	$	$	$
Underwriting Discounts and Commissions paid by selling stockholders	$	$	$	$

We have agreed that we will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, or file with the Securities and Exchange Commission a registration statement under the Securities Act relating to, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, or publicly disclose the intention to make any such offer, sale, pledge, disposition or filing, without the prior written consent of Credit Suisse First Boston Corporation for a period of 90 days after the date of this prospectus except issuances related to the acquisition of Interface and pursuant to the exercise of employee stock options outstanding on the date hereof.

Our officers and directors and holders of a total of shares of our common stock have agreed that they will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, enter into a transaction which would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of our common stock, whether any such aforementioned transaction is to be settled by delivery of our common stock or such other securities, in cash or otherwise, or publicly disclose the intention to make any such offer, sale, pledge or disposition, or to enter into any such transaction, swap, hedge or other arrangement, without, in each case, the prior written consent of Credit Suisse First Boston Corporation for a period of 90 days after the date of this prospectus. Hikari Tsushin has agreed to this same restriction for a period of 30 days after the date of this prospectus.

We and the selling stockholders have agreed to indemnify the underwriters against liabilities under the Securities Act, or contribute to payments which the underwriters may be required to make in that respect.

The common stock is quoted on The Nasdaq Stock Market's National Market under the symbol TMWD.

The representatives may engage in over-allotment, stabilizing transactions, syndicate covering transactions, penalty bids and passive market making in accordance with Regulation M under the Securities Exchange Act of 1934 (the "Exchange Act").

- Over-allotment involves syndicate sales in excess of the offering size, which creates a syndicate short position.

- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.

- Syndicate covering transactions involve purchases of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions.

- Penalty bids permit the representatives to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

- In passive market making, market makers in the common stock who are underwriters or prospective underwriters may, subject to limitations, make bids for or purchases of the common stock until the time, if any, at which a stabilizing bid is made.

These stabilizing transactions, syndicate covering transactions and penalty bids may cause the price of the common stock to be higher than it would otherwise be in the absence of these transactions. These transactions may be effected on The Nasdaq National Market or otherwise and, if commenced, may be discontinued at any time.

A prospectus in electronic format may be made available on the web sites maintained by one or more of the underwriters participating in this offering. The representatives may agree to allocate a number of shares to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters that will make internet distributions on the same basis as other allocations.

Curtis H. Smith, a brother of Jeffrey C. Smith (the President, Chief Executive Officer and Chairman of the Board of Directors of Tumbleweed), is a Vice President at Credit Suisse First Boston, the lead underwriter of this offering and financial advisor to Tumbleweed in connection with the acquisition of Worldtalk. Previously, Curtis H. Smith was an Associate at ING Barings, a co-manager in Tumbleweed's initial public offering. Credit Suisse First Boston will receive a customary portion of the aggregate discount and commissions of this offering, as set forth on the cover page of this prospectus, and ING Barings received a customary portion of the aggregate discounts and commissions in the initial public offering, as set forth on the cover page of that prospectus. Credit Suisse First Boston received a customary fee in connection with the Worldtalk acquisition.

Notice to Canadian Residents

Resale Restrictions

The distribution of the common stock in Canada is being made only on a private placement basis exempt from the requirement that we prepare and file a prospectus with the securities regulatory authorities in each province where trades of common stock are effected. Accordingly, any resale of the common stock in Canada must be made in accordance with applicable securities laws. These will vary depending on the relevant jurisdiction, and which may require resales to be made in accordance with available statutory exemptions or under a discretionary exemption granted by the applicable Canadian securities regulatory authority. Purchasers are advised to seek legal advice before any resale of the common stock.

Representations of Purchasers

Each purchaser of common stock in Canada who receives a purchase confirmation will be deemed to represent to us and the dealer from whom the purchase confirmation is received that:

- the purchaser is entitled under applicable provincial securities laws to purchase the common stock without the benefit of a prospectus qualified under such securities laws, - where required by law, the purchaser is purchasing as principal and not as agent, and - the purchaser has reviewed the text above under "Resale Restrictions."

Rights of Action (Ontario Purchasers)

The securities being offered are those of a foreign issuer and Ontario purchasers will not receive the contractual right of action prescribed by Ontario securities law. As a result, Ontario purchasers must rely on other remedies that may be available, including common law rights of action for damages or rescission or rights of action under the civil liability provisions of the U.S. federal securities laws.

Enforcement of Legal Rights

All of the issuer's directors and officers as well as the experts named herein may be located outside of Canada and, as a result, it may not be possible for Canadian purchasers to effect service of process within Canada upon the issuer or such persons. All or a substantial portion of the assets of the issuer and such persons may be located outside of Canada and, as a result, it may not be possible to satisfy a judgment against the issuer or these persons in Canada or to enforce a judgment obtained in Canadian courts against such issuer or persons outside of Canada.

Notice to British Columbia Residents

A purchaser of common stock to whom the SECURITIES ACT (British Columbia) applies is advised that the purchaser is required to file with the British Columbia Securities Commission a report within ten days of the sale of any common stock acquired by the purchaser in this offering. This report must be in the form attached to British Columbia Securities Commission Blanket Order BOR #95/17, a copy of which may be obtained from us. Only one report must be filed in respect of common stock acquired on the same date and under the same prospectus exemption.

Taxation and Eligibility for Investment

Canadian purchasers of common stock should consult their own legal and tax advisors with respect to the tax consequences of an investment in the common stock in their particular circumstances and with respect to the eligibility of the common stock for investment by the purchaser under relevant Canadian legislation.

Legal Matters

The validity of the shares of common stock being offered will be passed upon for us by Skadden, Arps, Slate, Meagher & Flom LLP, Palo Alto, California. Two attorneys at Skadden, Arps beneficially own a total of approximately 40,244 shares of the common stock, of which approximately 39,146 shares are owned by Gregory C. Smith, brother of Jeffrey C. Smith, the President, Chief Executive Officer and Chairman of the Board of Directors of Tumbleweed. Selected legal matters in connection with this offering will be passed on for the underwriters by Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP, Menlo Park, California.

Experts

The consolidated financial statements of Tumbleweed as of December 31, 1998 and 1999 and for each of the years in the three-year period ended December 31, 1999 have been included herein and in the Registration Statement in reliance upon the report of KPMG LLP, independent certified public accountants, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

The consolidated balance sheets of Interface and its subsidiaries as of September 30, 1998 and 1999, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the three-year period ended September 30, 1999, have been audited by Arthur Andersen LLP, independent public accountants, as indicated in their reports with respect thereto, and are included herein in reliance upon the authority of said firm as experts in giving said reports.

Available Information

We filed with the Securities and Exchange Commission a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock being offered. This prospectus does not contain all of the information described in the registration statement and the related exhibits and schedules. For further information with respect to Tumbleweed and the common stock being offered, reference is made to the registration statement and the related exhibits and schedule. A copy of the registration statement and the related exhibits and schedule may be inspected without charge at the public reference facilities maintained by the Securities and Exchange Commission in Room 1024, 450 Fifth Street, N.W., Washington, D.C. 20549, and at the Securities and Exchange Commission's regional offices located at the Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661 and Seven World Trade Center, 13th Floor, New York, New York 10048, and copies of all or any part of the registration statement may be obtained from these offices upon the payment of the fees prescribed by the Securities and Exchange Commission. Information on the operation of the Public Reference Room may be obtained by calling the Securities and Exchange Commission at 1-800-SEC-0330. The Securities and Exchange Commission maintains a web site that contains reports, proxy and information statements and other information regarding registrants that file electronically with the Securities and Exchange Commission. The address of the site is http://www.sec.gov.

We intend to provide our stockholders with annual reports containing combined financial statements audited by an independent accounting firm and quarterly reports containing unaudited combined financial data for the first three quarters of each year.

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Pro Forma Condensed Combined Financial Information

Selected Unaudited Pro Forma Condensed Combined Financial Information:

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Report of Kpmg Llp, Independent Auditors

The Board of Directors and Stockholders Tumbleweed Communications Corp.:

We have audited the accompanying consolidated balance sheets of Tumbleweed Communications Corp. (the Company) and subsidiaries as of December 31, 1999 and 1998, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 1999. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards 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. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Tumbleweed Communications Corp. and subsidiaries as of December 31, 1999 and 1998, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 1999, in conformity with generally accepted accounting principles.

/s/ KPMG LLP

San Francisco, California January 17, 2000

Tumbleweed Communications Corp. and Subsidiaries

Consolidated Balance Sheets

(In Thousands, Except Share and Per Share Data)

	DECEMBER 31,		MARCH 31,
	1999	1998	2000 (UNAUDITED)
ASSETS			
Current assets:			
Cash and cash equivalents	$60,544	$ 4,556	$46,447
Short-term investments	--	2,166	--
Accounts receivable, net of allowance for doubtful accounts of $816, $1,840 and $516, respectively	5,182	3,241	4,980
Prepaid expenses and other current assets	3,574	779	3,134
Total current assets	69,300	10,742	54,561
Property and equipment, net	3,485	1,428	5,001
Other assets	2,898	549	3,014
Total assets	$75,683	$12,719	$62,576
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current liabilities:			
Accounts payable	$ 2,878	$ 923	$ 5,514
Current installments of long-term debt	840	506	594
Accrued liabilities	6,398	3,867	6,822
Deferred revenue	2,579	2,604	2,639
Total current liabilities	12,695	7,900	15,569
Long-term debt, excluding current installments	1,017	382	858
Other long-term liabilities	258	--	266
Total liabilities	13,970	8,282	16,693
Commitments			

Stockholders' equity: Preferred stock, $0.001 par value; 10,000,000 shares authorized, zero issued or outstanding as of December 31, 1999 and 1998 and March 31, 2000..... -- -- -- Convertible preferred stock (29,000,000 shares authorized): Series A, $0.001 par value; zero, 2,700,000, and zero shares designated as of December 31, 1999 and 1998 and March 31, 2000, respectively; zero, 2,657,971, and zero shares issued and outstanding as of December 31, 1999 and 1998 and March 31, 2000, respectively; (aggregate liquidation preference of $3,668 as of December 31, 1998)..... -- 3 -- Series B, $0.001 par value; zero, 4,250,000, and zero shares

designated as of December 31, 1999 and 1998 and March 31, 2000, respectively; zero, 4,065,960, and zero shares issued and outstanding as of December 31, 1999 and 1998 and March 31, 2000, respectively; (aggregate liquidation preference of $8,105 as of December 31, 1998)..... -- 4 -- Series C, $0.001 par value; zero, 6,000,000, and zero shares designated as of December 31, 1999 and 1998 and March 31, 2000, respectively; zero shares issued and outstanding as of December 31, 1999 and 1998 and March 31, 2000..... -- -- -- Common stock, $0.001 par value; 100,000,000 shares authorized, 25,426,512, 6,987,895 and 25,832,892 shares issued and outstanding as of December 31, 1999 and 1998 and March 31, 2000, respectively..... 26 7 26 Additional paid-in capital..... 132,167 47,001 134,764 Deferred compensation expense..... (5,283) (1,548) (5,105) Accumulated other comprehensive income (loss)..... 53 (2) 70 Accumulated deficit..... (65,250) (41,028) (83,872) Total stockholders' equity..... 61,713 4,437 45,883 Total liabilities and stockholders' equity..... $75,683 $12,719 $62,576 See accompanying notes to consolidated financial statements.

Tumbleweed Communications Corp. and Subsidiaries

Consolidated Statements of Operations

(In Thousands, Except Per Share Data)

	YEARS ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1999	1998	1997	2000	1999
				(UNAUDITED)	(UNAUDITED)
Revenue:					
License	$ 11,285	$ 8,996	$ 4,097	$ 4,356	$ 2,702
Services	3,018	1,359	259	1,524	564
Transaction fees	981	--	--	730	3
Sale of technology	--	220	120	--	--
Revenue from continuing product lines	15,284	10,575	4,476	6,610	3,269
Discountinued product line	1,472	4,888	7,580	--	638
Total revenue	16,756	15,463	12,056	6,610	3,907
Cost of revenue					
License	737	931	1,090	267	117
Services	4,088	3,319	3,020	1,941	782
Transaction fees	78	--	--	40	

5					
Total cost of revenue	4,903	4,250	4,110	2,248	904
Gross profit	11,853	11,213	7,946	4,362	3,003
Operating expenses:					
Research & development (exclusive of non-cash compensation expense of $1,049, $249 and $84 in 1999, 1998 and 1997, respectively, and $274 and $140 as of March 31, 2000 and 1999, respectively)	8,923	5,975	6,154	2,843	1,794
Sales & marketing (exclusive of non-cash compensation expense of $1,961, $300 and $102 in 1999, 1998 and 1997, respectively, and $636 and $146 as of March 31, 2000 and 1999, respectively)	19,917	11,546	9,988	7,192	3,144
General & administrative (exclusive of non-cash compensation expense of $526, $166 and $102 in 1999, 1998 and 1997, respectively, and $164 and $50 as of March 31, 2000 and 1999, respectively)	5,524	5,220	3,467	1,640	816
Stock compensation	3,536	715	288	1,074	336
Merger related and restructuring expenses	--	--	--	10,803	--
Total operating expenses	37,900	23,456	19,897	23,552	6,090
Operating loss	(26,047)	(12,243)	(11,951)	(19,190)	(3,087)
Other income, net	2,126	524	673	656	138
Net loss before provision for taxes	(23,921)	(11,719)	(11,278)	(18,534)	(2,949)
Provision for (benefit from) taxes	301	1	183	88	(18)
Net loss	(24,222)	(11,720)	(11,461)	(18,622)	(2,931)
Other comprehensive income (loss)--translation adjustment	55	(2)	--	17	4
Comprehensive loss	$(24,167)	$(11,722)	$(11,461)	$(18,605)	$(2,927)
Net loss per share--basic and diluted	$ (1.65)	$ (1.79)	$ (1.90)	$ (0.73)	$ (0.43)
Weighted average shares--basic and diluted	14,650	6,549	6,023	25,588	6,889

See accompanying notes to consolidated financial statements.

Tumbleweed Communications Corp. and Subsidiaries

Consolidated Statements of Stockholders' Equity

YEARS ENDED DECEMBER 31, 1999, 1998 AND 1997 AND THREE MONTHS ENDED MARCH 31, 2000 (UNAUDITED)

(In Thousands, Except Share Data)

	CONVERTIBLE PREFERRED STOCK						COMMON STOCK	
	SERIES A		SERIES B		SERIES C			
	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT
BALANCES, DECEMBER 31, 1996	2,657,971	$3	--	$ --	--	$ --	6,710,400	$7
Issuance of Series B preferred stock, net of issuance costs of $47	--	--	4,065,960	4	--	--	--	--
Issuance of Series B preferred stock warrant	--	--	--	--	--	--	--	--
Issuance of common stock to nonemployees	--	--	--	--	--	--	--	--
Deferred compensation expense on stock option grants	--	--	--	--	--	--	--	--
Amortization of deferred compensation expense	--	--	--	--	--	--	--	--
Repayment of stockholders' notes receivable	--	--	--	--	--	--	--	--
Issuance of common stock upon exercise of stock options	--	--	--	--	--	--	38,480	--
Purchases under Employee Stock Purchases Plan	--	--	--	--	--	--	32,240	--
Repurchase of common stock	--	--	--	--	--	--	(19,500)	--
Net loss	--	--	--	--	--	--	--	--
BALANCES, DECEMBER 31, 1997	2,657,971	3	4,065,960	4	--	--	6,761,620	7
Issuance of common stock to nonemployees	--	--	--	--	--	--	--	--
Issuance of common stock upon exercise of stock options	--	--	--	--	--	--	197,935	--
Purchases under Employee Stock Purchases Plan	--	--	--	--	--	--	40,300	--
Repurchase of common stock	--	--	--	--	--	--	(11,960)	--
Issuance of Series C preferred stock warrant	--	--	--	--	--	--	--	--
Foreign currency translation adjustment	--	--	--	--	--	--	--	--
Deferred compensation expense on stock option grants	--	--	--	--	--	--	--	--
Amortization of deferred compensation expense	--	--	--	--	--	--	--	--

Net loss	--	--	--	--	--	--	--	--	--	--
BALANCES, DECEMBER 31, 1998	2,657,971	3	4,065,960	4	--	--	6,987,895	7		

	ADDITIONAL PAID-IN CAPITAL	STOCKHOLDER NOTE RECEIVABLE	DEFERRED COMPENSATION EXPENSE	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	ACCUMULATED DEFICIT
BALANCES, DECEMBER 31, 1996	$ 35,496	$ (265)	$ (382)	$ --	$ (17,847)
Issuance of Series B preferred stock, net of issuance costs of $47	8,024	--	--	--	--
Issuance of Series B preferred stock warrant	28	--	--	--	--
Issuance of common stock to nonemployees	7	--	--	--	--
Deferred compensation expense on stock option grants	469	--	(469)	--	--
Amortization of deferred compensation expense	--	--	288	--	--
Repayment of stockholders' notes receivable	--	265	--	--	--
Issuance of common stock upon exercise of stock options	204	--	--	--	--
Purchases under Employee Stock Purchases Plan	462	--	--	--	--
Repurchase of common stock	(13)	--	--	--	--
Net loss	--	--	--	--	(11,461)
BALANCES, DECEMBER 31, 1997	44,677	--	(563)	--	(29,308)
Issuance of common stock to nonemployees	8	--	--	--	--
Issuance of common stock upon exercise of stock options	217	--	--	--	--
Purchases under Employee Stock Purchases Plan	358	--	--	--	--
Repurchase of common stock	(14)	--	--	--	--
Issuance of Series C preferred stock warrant	55	--	--	--	--
Foreign currency translation adjustment	--	--		(2)	--
Deferred compensation expense on stock option grants	1,700	--	(1,700)	--	--
Amortization of deferred compensation					

expense	--	--	715	--	--
Net loss	--	--	--	--	(11,720)
BALANCES, DECEMBER 31, 1998	47,001	--	(1,548)	(2)	(41,028)

TOTAL STOCKHOLDERS' EQUITY

BALANCES, DECEMBER 31, 1996	$ 17,012
Issuance of Series B preferred stock, net of issuance costs of $47	8,028
Issuance of Series B preferred stock warrant	28
Issuance of common stock to nonemployees	7
Deferred compensation expense on stock option grants	--
Amortization of deferred compensation expense	288
Repayment of stockholders' notes receivable	265
Issuance of common stock upon exercise of stock options	204
Purchases under Employee Stock Purchases Plan	462
Repurchase of common stock	(13)
Net loss	(11,461)
BALANCES, DECEMBER 31, 1997	14,820
Issuance of common stock to nonemployees	8
Issuance of common stock upon exercise of stock options	217
Purchases under Employee Stock Purchases Plan	358
Repurchase of common stock	(14)
Issuance of Series C preferred stock warrant	55
Foreign currency translation adjustment	(2)
Deferred compensation expense on stock option grants	--
Amortization of deferred compensation expense	715
Net loss	(11,720)
BALANCES, DECEMBER 31, 1998	4,437

See accompanying notes to consolidated financial statements.

Tumbleweed Communications Corp. and Subsidiaries

Consolidated Statements of Stockholders' Equity (Continued)

	CONVERTIBLE PREFERRED STOCK						COMMON STOCK	
	SERIES A		SERIES B		SERIES C			
	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT

Issuance of common stock upon exercise of stock options..... -- -- -- -- -- -- 886,981 1 Issuance of Series B preferred stock in exchange for services..... -- -- 15,000 -- -- -- -- -- Issuance of Series C preferred stock and warrants net of issuance costs of $1,337..... -- -- -- -- 5,586,003 5 -- -- Issuance of Series C preferred stock in exchange for services..... -- -- -- -- 6,500 -- -- -- Issuance of common stock warrant..... -- -- -- -- -- -- -- -- Issuance of common stock upon exercise of warrants..... -- -- -- -- -- -- 94,610 -- Purchases under Employee Stock Purchase Plan..... -- -- -- -- -- 39,000 Foreign currency translation adjustment..... -- -- -- -- -- -- -- -- Deferred compensation expense on stock option grants..... -- -- -- -- -- -- -- -- Amortization of deferred compensation expense..... -- -- -- -- -- -- -- -- Conversion of preferred stock to common stock..... (2,657,971) (3) (4,080,960) (4) (5,592,503) (5) 12,331,434 12 Gain on sale of TKK subsidiary... -- -- -- -- -- -- -- -- Repurchase of common stock..... -- -- -- -- -- -- -- -- Issuance of common stock--IPO, net of issuance costs of $4,855..... -- -- -- -- -- -- 4,219,592 5 Issuance of common stock for equity financing..... -- -- -- -- -- -- 867,000 1 Net loss..... -- -- -- -- -- -- -- -- BALANCES, DECEMBER 31, 1999..... -- -- -- -- -- -- 25,426,512 26 Issuance of commons stock upon exercise of stock options (unaudited)..... -- -- -- -- -- -- 406,380 -- Foreign currency translation adjustment (unaudited)..... -- -- -- -- -- -- -- -- Deferred compensation expense on stock option grants (unaudited)..... -- -- -- -- -- -- -- -- Deferred compensation expense on stock option vesting acceleration (unaudited)..... -- -- -- -- -- -- -- -- Amortization of deferred compensation expense (unaudited)..... -- -- -- -- -- -- -- -- Net Loss (unaudited)..... -- -- -- -- -- -- -- -- BALANCES, MARCH 31, 2000 (UNAUDITED)..... -- $ -- -- $ -- -- $ -- 25,832,892 $26

	ADDITIONAL PAID-IN CAPITAL	STOCKHOLDER NOTE RECEIVABLE	DEFERRED COMPENSATION EXPENSE	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	TOTAL ACCUMULATED DEFICIT	STOCKHOLDERS' EQUITY
Issuance of common stock upon exercise of stock options.....	1,247	--	--	--	--	1,248
Issuance of Series B preferred stock in exchange for services.....	54	--	--	--	--	54
Issuance of Series C preferred stock and warrants net of issuance costs of $1,337.....	18,748	--	--	--	--	18,753
Issuance of Series C preferred stock in exchange for services.....	23	--	--	--	--	23
Issuance of common stock warrant.....	127	--	--	--	--	127
Issuance of common stock upon exercise of warrants.....	270	--	--	--	--	270
Purchases under Employee Stock Purchase Plan.....	311	--	--	--	--	311
Foreign currency translation adjustment.....	--	--	--	55	--	55
Deferred compensation expense on stock option grants.....	7,271	--	(7,271)	--	--	--
Amortization of deferred compensation expense.....	--	--	3,536	--	--	3,536
Conversion of preferred stock to common stock.....	--	--	--	--	--	--
Gain on sale of TKK subsidiary...	1,491	--	--	--	--	1,491
Repurchase of common stock.....	(36)	--	--	--	--	(36)
Issuance of common stock--IPO, net of issuance costs of $4,855.....	45,769	--	--	--	--	45,774
Issuance of common stock for equity financing.....	9,891	--	--	--	--	9,892
Net loss.....	--	--	--	--	(24,222)	(24,222)
BALANCES, DECEMBER 31, 1999.....	132,167	--	(5,283)	53	(65,250)	61,713
Issuance of commons stock upon exercise of stock options (unaudited).....	1,290	--	--	--	--	1,290
Foreign currency translation adjustment (unaudited).....	--	--	--	17	--	17
Deferred compensation expense on stock option grants (unaudited).....	1,032	--	(1,032)	--	--	--
Deferred compensation						

expense on stock option vesting acceleration (unaudited)..... 275 -- 136 -- -- 411 Amortization of deferred compensation expense (unaudited)..... -- -- 1,074 -- -- 1,074 Net Loss (unaudited)..... -- -- -- -- (18,622) (18,622) BALANCES, MARCH 31, 2000 (UNAUDITED)..... $134,764 $ -- $(5,105) $70 $(83,872) $ 45,883 See accompanying notes to consolidated financial statements.

Tumbleweed Communications Corp. and Subsidiaries

Consolidated Statements of Cash Flows

(In Thousands)

	YEARS ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1999	1998	1997	2000	1999
				(UNAUDITED)	(UNAUDITED)
Cash flows from operating activities:					
Net loss.....	$(24,222)	$(11,720)	$(11,461)	$(18,622)	$(2,931)
Adjustments to reconcile net loss to net cash used in operating activities:					
Compensation for grant of non-employee stock options and warrant issuances.....	464	8	34	411	78
Amortization of deferred compensation.....	3,536	715	288	1,074	336
Depreciation and amortization.....	1,161	1,030	894	447	247
Change in allowance for doubtful accounts.....	(1,024)	1,719	--	--	--
Amortization of debt discount.....	--	12	--	--	43
Changes in operating assets and liabilities:					
Accounts receivable.....	(1,202)	(1,640)	2,281	202	224
Prepaid expenses and other current assets.....	(2,000)	298	(414)	440	(84)
Accounts payable and other liabilities.....	5,103	452	(870)	3,068	(42)
Deferred revenue.....	44	(1,798)	2,732	60	(792)
Net cash used in operating activities.....	(18,140)	(10,924)	(6,516)	(12,920)	(2,921)
Cash flows from investing activities:					
Purchase of property and equipment.....	(3,246)	(524)	(872)	(1,963)	(277)
Cash transferred to TKK.....	(683)	--	--	--	--
Purchase of short-term investments.....	--	(56,383)	(7,418)	--	--

Sales and maturities of short-term investments.....	2,166	60,632	7,030	--
1,666				
Other assets.....	(580)	7	247	(116)
18				
Net cash (used in) provided by investing activities.....	(2,343)	3,732	(1,013)	(2,079)
1,407				
Cash flows from financing activities:				
Increase in borrowings.....	2,103	560	243	--
1,167				
Repayments of borrowings.....	(1,639)	(343)	(351)	(405)
(1,107)				
Proceeds from the issuance of preferred stock and warrants, net.....	18,493	--	8,028	--
14,949				
Proceeds from the issuance of common stock, net.....	55,666	--	--	--
--				
Repurchase of common stock.....	(36)	(14)	(13)	--
--				
Issuance of common stock upon exercise of stock options...	1,248	217	204	1,290
301				
Issuance of common stock under Employee Stock Purchase Plan.....	311	358	462	--
--				
Issuance of common stock upon exercise of warrants.....	270	--	--	--
--				
Payments on stockholder note payable.....	--	--	(19)	--
--				
Repayment of shareholder receivable.....	--	--	265	--
--				
Net cash provided by financing activities:.....	76,416	778	8,819	885
15,310				
Effect of exchange rate fluctuations.....	55	(2)	--	17
4				
Net (decrease) increase in cash and cash equivalents.....	55,988	(6,416)	1,290	(14,097)
13,800				
Cash and cash equivalents, beginning of period.....	4,556	10,972	9,682	60,544
4,556				
Cash and cash equivalents, end of period.....	$ 60,544	$ 4,556	$ 10,972	$ 46,447
$18,356				
Supplemental disclosures of cash flow information:				
Cash paid during the year for interest.....	$ 97	$ 79	$ 92	$ 39
$ 82				
Noncash investing and financing activities:				
Issuance of warrants and options for services, debt issuance costs or equity offering costs.....	$ 464	$ 63	$ 34	$ --
$ --				
Equipment acquired under capital lease agreement.....	$ 85	$ --	$ 110	$ --
$ --				
Deferred compensation expense associated with stock option activity.....	$ 7,271	$ 1,700	$ 469	$ 1,307
$ 2,326				
Issuance of debt to acquire insurance contract.....	$ 525	$ --	$ --	$ --
$ --				

See accompanying notes to consolidated financial statements.

Tumbleweed Communications Corp. and Subsidiaries

Notes to Consolidated Financial Statements

Years Ended December 31, 1999, 1998 and 1997

(Information as of and for the Three Months Ended March 31, 2000 and 1999 Is Unaudited)

(1) Description of Business and Summary of Significant Accounting Policies

Tumbleweed Communications Corp. ("Tumbleweed" or "the Company"), a Delaware corporation initially incorporated in California in June 1993, is a leading provider of internet infrastructure for business messaging worldwide. We offer two product lines: Tumbleweed Integrated Messaging Exchange (IME) and Tumbleweed Messaging Management System (MMS). Tumbleweed IME is a comprehensive set of products and services that enables businesses to use e-mail and the Web for secure, trackable online communication. In addition to our core IME technology, Tumbleweed offers applications aimed at specific vertical markets and common business processes, and an extensive development toolkit for building customized online services. Tumbleweed IME is a scalable, feature rich communication solution, and serves as the foundation for online business services offered by our customers. Tumbleweed MMS is a set of e-mail management products and services that enables businesses to protect valuable corporate information on the Internet. MMS enables businesses to set and enforce policies for security, archiving, distribution, monitoring and regulatory compliance related to Internet e-mail. Using MMS, companies can set policies to apply content control, encryption, access control, attachment management, virus scanning and digital signature policies that are administered centrally and universally across an enterprise. MMS can also enable centralized control over communications security policies by automatically re-routing e-mail traffic that should be sent securely to Tumbleweed IME.

On January 31, 2000, the Company completed its acquisition of Worldtalk Communications Corp. ("Worldtalk"). Under the terms of the merger agreement, each Worldtalk share of common stock has been converted into 0.26 of a share of the Company's common stock. A total of 3,798,398 shares of the Company's common stock was exchanged for 14,609,374 shares of Worldtalk common stock. The business combination was accounted for as a pooling of interests and, accordingly, the Company's historical financial statements have been restated to include the accounts and results of operations of Worldtalk.

In March of 1994, the Company sold a technology known as Envoy to Novell, Inc. pursuant to an asset transfer, and the Company thereafter effected a substantial distribution to its stockholders. In connection with this sale, the Company retained the rights to derivative payments from various agreements that were acquired by Novell, Inc. for specified periods of time. The proceeds from this asset transfer were used for general corporate purposes, including the initial development of Tumbleweed IME. Virtually all of the Company's revenue recognized before June of 1997, which marked the initial launch of Tumbleweed IME, was derived from these agreements. The Company ceased recognizing revenue under these agreements in the first quarter of 1997, and does not anticipate recognizing any additional revenue under these agreements in the future since management believes that Novell, Inc. has discontinued distribution of products utilizing Envoy technology. As a result, revenue recognized for periods before June of 1997 is not indicative of the Company's operating results in subsequent periods. In addition, in 1998 and 1997, the Company recognized revenue derived from a sale of ancillary technology to a third party.

On June 28, 1999, the Company filed with the California Secretary of State to officially change its name to Tumbleweed Communications Corp. from Tumbleweed Software Corporation. The board of directors and shareholders approved the name change on June 23, 1999 and June 28, 1999, respectively.

Tumbleweed Communications Corp. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

Years Ended December 31, 1999, 1998 and 1997

(Information as of and for the Three Months Ended March 31, 2000 and 1999 Is Unaudited)

(1) DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) On May 27, 1999, the board of directors approved the Company's reincorporation in the state of Delaware. On August 2, 1999, the reincorporation was completed. The Certificate of Incorporation of the Delaware successor corporation authorizes 100 million shares of common stock, $0.001 par value per share, and 10 million shares of preferred stock, $0.001 par value per share. The accompanying consolidated financial statements have been retroactively restated to give effect to the reincorporation.

In August 1999, the Company sold 4,219,592 shares of its common stock (of which 219,592 shares were sold pursuant to the Underwriters' over-allotment option) through its initial public offering (IPO). Net proceeds from the offering were approximately $45.8 million after deducting the underwriting

discount and other offering expenses. At the time of the IPO, all of the Company's outstanding preferred stock automatically converted into 12,331,434 shares of common stock.

The Company maintains its headquarters in Redwood City, California. During 1999, the Company incorporated subsidiaries in the United Kingdom, Germany, and France. During the three months ended March 31, 2000, the Company incorporated subsidiaries in Australia, the Netherlands and Sweden.

Basis of Presentation

The accompanying consolidated financial statements include the accounts of the Company, its wholly owned subsidiary, Worldtalk, and the Company's wholly owned subsidiary in the United Kingdom, in addition to the United Kingdom's wholly owned subsidiaries in France, Germany, Australia, the Netherlands and Sweden. In addition, the Company's consolidated financial statements include its former wholly owned subsidiary in Japan until August 31, 1999, when it became an equity method investee. All significant intercompany accounts and transactions have been eliminated in consolidation.

Unaudited Interim Financial Data

The unaudited consolidated financial information as of March 31, 2000 and for the three months ended March 31, 2000 and 1999 has been prepared on the same basis as the audited consolidated financial statements and, in the opinion of management, includes all adjustments (consisting of only normal recurring adjustments) necessary to present fairly the financial information set forth therein, in accordance with generally accepted accounting principles. Results of operations for the three months ended March 31, 2000 are not necessarily indicative of the results to be expected for any future period.

Cash, Cash Equivalents and Short-term Investments

The Company considers all highly liquid investments purchased with remaining maturities of three months or less to be cash equivalents. As of December 31, 1999 and 1998, the Company had $47.1 million and $604,000 in money market accounts, respectively. As of December 31, 1999 and 1998, the Company had $11.9 million and $3.9 million in commercial paper. As of March 31, 2000, the Company had $27.3 million in money market accounts and $16.9 million in commercial paper.

(1) DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) The Company has adopted Statement of Financial Accounting Standards ("SFAS") No. 115, ACCOUNTING FOR CERTAIN INVESTMENTS IN DEBT AND EQUITY SECURITIES. SFAS No. 115 requires entities to classify investments in debt and equity securities with readily determined fair values as "held-to-maturity," "available-for-sale" or "trading" and establishes accounting and reporting requirements for each classification. The Company generally has classified its short-term investment securities as available-for-sale and accounts for them at estimated fair value. As of December 31, 1998, short-term investments consisted of commercial paper due within one year or less. Realized and unrealized gains and losses were not significant for 1999, 1998 and 1997 and the three months ended March 31, 2000 and 1999, respectively. The cost of securities sold is based on the specific identification method.

Property and Equipment

Depreciation and amortization of property and equipment, which is stated at cost, is computed using the straight-line method over the estimated useful life of the asset, which is 3 to 5 years for computers, furniture and equipment and the shorter of the estimated useful life of the asset or the remaining lease term for leasehold improvements. Equipment under capital lease is amortized over the shorter of the estimated useful life of the asset or the lease term.

Capitalized Software

Development costs incurred in the research and development of new software products and enhancements to existing software products are expensed as incurred until technological feasibility in the form of a working model has been established. To date, capitalized costs for the Company's software development have not been material.

Concentrations of Credit Risk

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist primarily of cash equivalents, short-term investments and accounts receivable. The Company's cash equivalents generally consist of money market funds with qualified financial institutions. To reduce credit risk with accounts receivable, the Company performs ongoing evaluations of its customers' financial conditions and maintains allowances for credit losses, when necessary.

Revenue Recognition

In October 1997, the Accounting Standards Executive Committee of the American Institute of Certified Public Accountants issued Statement of Position ("SOP") 97-2, SOFTWARE REVENUE RECOGNITION. Effective January 1, 1998, the Company adopted SOP 97-2. SOP 97-2 generally requires revenue recognized from software arrangements to be allocated to each element of the arrangement based on the relative fair values of the elements, such as software products, consulting, training, installation, or post-contract customer support. Fair values are based upon vendor specific objective evidence. If such evidence of fair value for each element of the arrangement does not exist, all revenue from the arrangement is deferred until such time that evidence of fair value does exist, or until all elements of

(1) DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) the arrangement are delivered. There was no material change to the Company's accounting for revenue as a result of the adoption of SOP 97-2.

In February 1998, the Accounting Standards Executive Committee of the American Institute of Certified Public Accountants issued SOP 98-4, DEFERRAL OF THE EFFECTIVE DATE OF SOP 97-2. The SOP deferred the effective date for applying the provisions regarding vendor-specific objective evidence of fair value. There was no material change to the Company's accounting for revenue as a result of the adoption of SOP 98-4.

The Company's customer contracts are generally multiple-element arrangements; that is, they involve the Company providing a combination of products and services to a customer. Revenue is allocated to the various elements based on the relative fair values of the elements. Revenue allocated to the various elements is recognized when the basic revenue recognition criteria are met for that element or group of elements.

License revenue consists of initial license fees and the sale of distribution rights. License revenue typically is recognized upon shipment of the software. Revenue from the sale of distribution rights is recognized upon the execution of a distribution agreement. Service fee revenue consists of consulting fees and support and maintenance fees. Consulting fees related to installation are recognized upon acceptance of the installation while all other consulting fees are recognized based on percentage of completion. Support and maintenance fees are paid for ongoing customer support as well as for the right to receive future upgrades to the Company's products during the term of the maintenance agreement. Revenue from support and maintenance is recognized ratably over the period the support is provided. Transaction fees are based on the volume of transactions by the Company's customers, and the related revenue is recognized based on payment schedules and transaction reports from the Company's customers. A number of the Company's contracts include minimum transaction volume requirements. In these cases, the minimum guaranteed revenue is recognized when fees are due and payable during those months where transaction volume does not exceed the designated minimums.

Technology revenue relates to the sale of certain intellectual property. The Company recognized technology revenue as the payments were collected.

The Company provides limited warranty rights to its customers, which are accounted for in accordance with SFAS No. 5, ACCOUNTING FOR CONTINGENCIES. Estimated warranty obligations are provided by charges to operations in the period in which the related revenue is recognized. To date, the estimated warranty obligations have not been considered significant.

In December 1998, the Accounting Standards Executive Committee issued SOP 98-9, SOFTWARE REVENUE RECOGNITION, WITH RESPECT TO CERTAIN ARRANGEMENTS, which requires recognition of revenue using the residual method in a multiple element arrangement when fair value does not exist for one or more of the delivered elements in the arrangement. Under the residual method, the total fair value of the undelivered elements is deferred and subsequently recognized in accordance with SOP 97-2. SOP 98-9 also extends the deferral of the application of SOP 97-2 to certain other multiple-element software arrangements through the Company's year ending December 31, 1999. As a result of the provisions of

(1) DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) SOP 98-9, the Company did not have a material change to its accounting for revenue through December 31, 1999.

Advertising

The Company expenses advertising costs as incurred. Total advertising expense was $399,000, $565,000, and $489,000 for 1999, 1998, and 1997, respectively.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. A valuation allowance is recorded to reduce deferred tax assets to an amount whose realization is more likely than not. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

Stock-based Compensation

The Company accounts for its stock-based compensation arrangements for employees using the intrinsic-value method pursuant to Accounting Principles Board Opinion ("APB") No. 25, ACCOUNTING FOR STOCK ISSUED TO EMPLOYEES. As such, compensation expense is recorded for fixed plan stock options on the date of grant when the fair value of the underlying common stock exceeds the exercise price for stock options or the purchase price for issuance or sales of common stock. Options granted to consultants and other non-employees are considered compensatory and are accounted for at fair value pursuant to SFAS No. 123, ACCOUNTING FOR STOCK-BASED

COMPENSATION. The Company discloses the pro forma effects of using the fair value method of accounting for all stock-based compensation arrangements in accordance with SFAS No. 123 (See Note 6.).

Net Loss Per Share

Net loss per share is calculated in accordance with SFAS No. 128, EARNINGS PER SHARE. Under the provisions of SFAS No. 128, basic net loss per share is computed by dividing the net loss for the period by the weighted average number of common shares outstanding during the period. Diluted net loss per share is computed by dividing the net loss for the period by the weighted average number of common and potential common shares outstanding during the period if their effect is dilutive. Potential common shares comprise outstanding shares of common stock issued to certain officers (see Note 6) but subject to ratable repurchase by the Company if such officers do not remain employees through August 1999, and incremental common and preferred shares issuable upon the exercise of stock options and warrants and upon the conversion of Series A, Series B, and Series C preferred stock. The following potential

Tumbleweed Communications Corp. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

Years Ended December 31, 1999, 1998 and 1997

(Information as of and for the Three Months Ended March 31, 2000 and 1999 Is Unaudited)

(1) DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) common shares have been excluded from the determination of diluted net loss per share for all periods because the effect of such shares would have been anti-dilutive (in thousands):

	YEARS ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1999	1998	1997	2000	1999
Shares issuable under stock options.....	4,475	2,966	1,971	4,496	3,207
Shares of restricted stock subject to repurchase.....	--	197	535	--	113
Shares issuable pursuant to warrants or rights to purchase convertible preferred stock.....	--	61	40	--	

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--
Shares issuable pursuant to warrants or rights to
  purchase common stock.................................     540         14          7        540
14
Shares of convertible preferred stock on an
  "as-if-converted" basis...............................      --      6,724      6,724         --
120
                                                          5,015      9,962      9,277      5,036
3,454
```

As of December 31, 1999, 1998, 1997 and March 31, 2000 and 1999, the weighted average exercise prices of stock options were $9.39, $3.45, $5.36, $18.03 and $3.21, respectively. As of December 31, 1999, 1998, 1997 and March 31, 2000 and 1999, the weighted average exercise prices of warrants or rights to purchase common stock outstanding were $27.04, $2.87, $2.50, $27.04 and $3.58, respectively.

Other Comprehensive Income (Loss)

Other comprehensive income (loss) consists entirely of cumulative translation adjustments resulting from the Company's application of its foreign currency translation policy. The tax effects of translation adjustments were not significant.

Fair Value of Financial Instruments

The fair value of the Company's cash, cash equivalents, marketable securities, accounts receivable, accounts payable and equipment line approximate their carrying values due to the short maturity or variable-rate structure of those instruments.

Use of Estimates

The preparation of consolidated financial statements in conformity with generally accepted accounting principles 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 consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Tumbleweed Communications Corp. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

Years Ended December 31, 1999, 1998 and 1997

(Information as of and for the Three Months Ended March 31, 2000 and 1999 Is Unaudited)

(1) DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) FOREIGN CURRENCY TRANSLATION The functional currency for each foreign subsidiary is its respective local currency. Accordingly, all assets and liabilities related to these operations are translated at the current exchange rates at the end of each period. The resulting cumulative translation adjustments are recorded directly to the accumulated other comprehensive income (loss) account in stockholders' equity. Revenues and expenses are translated at average exchange rates in effect during the period. Foreign currency transaction gains and losses are included in results of operations. These amounts were not significant in 1999, 1998, 1997 and the three months March 31, 2000 and 1999. At March 31, 2000, December 31, 1999 and December 31, 1998, no foreign currency translation exposures were hedged.

Accounting for the Impairment of Long-lived Assets

The Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets held and used is measured by a comparison of the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of their carrying amount or fair value less cost to sell.

Recent Accounting Pronouncements

In June 1998, the Financial Accounting Standards Board ("FASB") issued SFAS No. 133, Accounting for Derivative Instruments and Hedging Activities. SFAS No. 133 establishes methods of accounting for derivative financial instruments and hedging activities related to those instruments as well as other hedging activities. SFAS No.133, as amended by SFAS No. 137, is effective for all fiscal quarters of fiscal years beginning after June 15, 2000. To date, Tumbleweed has not entered into any derivative financial instruments or hedging activities.

In December 1999, the SEC issued Staff Accounting Bulletin ("SAB") No. 101. The SAB summarized certain of the SEC Staff's views in applying generally accepted accounting principles to revenue recognition in financial statements. SAB No. 101, as amended by SAB No. 101B, and any resulting change in accounting principle that a registrant would have to report, is effective no later than the company's fiscal quarter ending December 31, 2000. Tumbleweed does not expect the application of SAB No. 101 to have a material effect on its financial position or results of operations, nor do we expect to report a change in accounting principle resulting from its application.

In March 2000, FASB issued Financial Interpretation No. 44 ("FIN 44"). FIN 44 clarifies (a) the definition of employee for purposes of applying Accounting Principles Board ("APB") Opinion 25, Accounting for Stock Issued to Employees, (b) the criteria for determining whether a plan qualifies as a noncompensatory plan, (c) the accounting consequence of various modifications to the terms of a previously fixed stock option or award, and (d) the accounting for an exchange of stock compensation awards in a business combination. FIN 44 is effective July 1, 2000, but certain conclusions in this Interpretation cover specific events that occur after either December 15, 1998, or January 12, 2000. To

(1) DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) the extent that this Interpretation covers events occurring during the period after December 15, 1998, or January 12, 2000, but before the effective date of July 1, 2000, the effects of applying this Interpretation are recognized on a prospective basis from July 1, 2000. Tumbleweed does not expect the application of FIN 44 to have a material effect on its financial position or results of operations.

(2) Financial Statement Components

A summary of property and equipment as of December 31, 1999 and 1998, follows (in thousands):

1999 1998

Office furniture	$1,601	$ 771
Computers and equipment	5,457	3,679
Leasehold improvements	691	111

	7,749	4,561
Less accumulated depreciation	4,264	3,133
	$3,485	$1,428

Property and equipment as of December 31, 1999 and 1998 includes equipment under capital leases of approximately $85,000 and $1.5 million and related accumulated amortization of approximately $12,000 and $1.5 million, respectively.

A summary of accrued liabilities as of December 31, 1999 and 1998, follows (in thousands):

1999 1998

Accrued compensation	$2,801	$1,542
Professional fees	1,632	1,100
Accrued sales and foreign taxes	399	114
Other	1,566	1,111
	$6,398	$3,867

Other income, net consisted of the following (in thousands):

YEARS ENDED DECEMBER 31, 1999 1998 1997

Interest income	$1,761	$622	$782
Interest expense	(200)	(108)	(109)
Equity loss in TKK	(22)	--	--
Miscellaneous income	587	10	--
	$2,126	$524	$673

(3) Related Party Transactions

Hikari Tsushin

In February 1999, the Company issued 3,914,989 shares of Series C preferred stock at a price of $3.58 to Hikari Tsushin ("Hikari"), a Japanese company, resulting in gross proceeds to the Company of approximately $14.0 million. In August 1999, in connection with the initial public offering, Hikari

purchased 400,000 shares of common stock at $12.00 per share, resulting in gross proceeds to the Company of approximately $4.8 million. As of December 31, 1999, Hikari owns approximately 20% of the Company's outstanding common stock.

On March 31, 1999, Tumbleweed KK (TKK), a wholly-owned Japanese subsidiary of the Company until August 31, 1999 when it became an equity investee, entered into a one-year License and Distribution Agreement with Hikari. A summary of the terms of this agreement is as follows:

- TKK granted Hikari a perpetual license to use the Company's product in consideration of a one-time, non-refundable fee of Y30,000,000 (which approximated $251,000 as of March 31, 1999).

- Hikari was granted distribution rights to sell the Company's products to third parties in consideration of a one-time, non-refundable fee of Y20,000,000 (which approximated $167,000 as of March 31, 1999).

- Beginning on April 1, 1999, Hikari began making quarterly, non-refundable prepaid transaction fees of Y23,625,000 (which approximated $231,000 as of December 31, 1999). The quarterly transaction fees are based on quarterly minimum volume commitments, and will be recognized as revenue in the quarter that the amounts are due and payable. The Company recognized $331,000 in transaction fees from Hikari during 1999.

On July 1, 1999, the Company entered into a Technology License Agreement with TKK. A summary of the terms of this agreement is as follows:

- The Company granted TKK a five year, non-exclusive license to use Tumbleweed IME products in connection with the marketing and sub-licensing of Tumbleweed IME products in Japan.

- Beginning on July 1, 1999, and as consideration for the license grant, TKK is obligated to pay the Company a royalty based on license and transaction fees revenue achieved by TKK. The royalty rate begins at 60% of TKK's net license revenue in 1999, declining to 55% in 2000 and 50% in 2001 and thereafter. The Company's management believes that these terms approximate arms-length rates for such sublicensing activities.

- During the term of the agreement, the Company will provide maintenance and support services to TKK. The Company receives an annual fee of $100,000 for the services.

On August 31, 1999, TKK sold 200 shares of its common stock, representing a 50% ownership interest in TKK, to Hikari for Y350,000,000 (which approximated $3.2 million as of August 31, 1999). Following Hikari's investment, Hikari and the Company have equal board representation in TKK. As a result of the equity transaction and the change in board constituency, the Company no longer believes that it has control of TKK. Consequently, beginning September 1, 1999, the Company began accounting

(3) RELATED PARTY TRANSACTIONS (CONTINUED) for its investment in TKK on the equity method of accounting rather than the consolidation method. Because TKK sold shares to Hikari, the Company's share of the book value of TKK's net assets exceeded the carrying amount of the investment by $1.49 million. As a result the Company has recorded $1.49 million in additional paid-in capital in 1999.

Prior to selling a 50% ownership interest in TKK on August 31, 1999, the Company recorded consolidated revenues from third-party customers of TKK of $914,000, $0, and $0 in 1999, 1998 and 1997, respectively. Hikari has historically been a significant customer of TKK, representing approximately 84%, 0%, and 0% of TKK's third party revenues recorded during the aforementioned periods. Subsequent to the divestiture on August 31, 1999, the Company recorded $300,000 in royalties received from TKK based on license revenue TKK earned from Hikari and an additional $17,000 in service revenue resulting from support and maintenance the Company provided directly to Hikari. The total amount due from Hikari was $17,000 as of December 31, 1999. There were no amounts due by the Company to Hikari as of December 31, 1999. During the three months ended March 31, 2000, the Company recorded revenues from TKK of approximately $367,000.

Other Related Party Transactions

In July 1999, in exchange for marketing and publicity services, the Company issued a warrant to a customer to acquire 100,000 shares of the Company's common stock. The warrant is exercisable immediately in three tranches: 50,000 shares at an exercise price of $20 per share; 25,000 shares at an exercise price of $30 per share; and 25,000 shares at an exercise price of $40 per share (see Note 6). In June 1999, the Company entered into a license agreement and a consulting agreement with this customer and recorded revenues of $374,000 in 1999 and deferred revenues of $650,000 as of December 31, 1999. The total amount due from this customer was $650,000 and total amount due by the Company to this customer was $72,000 as of December 31, 1999.

In conjunction with various financing arrangements in 1994, 1995, 1998 and 1999 the Company issued warrants to purchase 447 shares of common stock at prices ranging from $0.39 per share to $4.72 per share and 2 shares of Series B redeemable preferred stock now exercisable for common stock in lieu of the preferred stock at $0.58 per share. Of these warrants to purchase common stock, 433 related to an equity financing with affiliates of Hilal Capital Management and others completed in July 1999. A total of 440 warrants to purchase common stock remain available through December 31, 1999. These warrants expire at various dates through July 7, 2006.

(4) Debt

Long-term debt at December 31, 1999 and 1998 and March 31, 2000 consisted of the following:

	DECEMBER 31,		MARCH 31,
	1999	1998	2000
Equipment loan facilities	$1,335	$510	$1,211
Financing arrangement for directors' and officers' insurance premium	302	--	61
Capital leases	85	128	76
Term facility	135	250	104
Total long-term debt	1,857	888	1,452
Less current portion	840	506	594
Total long-term portion	$1,017	$382	$ 858

Revolving Credit Facility

In July 1998, the Company entered into a debt agreement with a bank, which includes a $1.5 million revolving credit facility. Borrowings under the revolving credit facility bear interest at the prime rate plus 0.5%, with interest payable monthly and an unamortized discount of $43,000. At March 31, 2000, there were no outstanding borrowings under the revolving credit facility. Under the terms of the revolving credit facility, availability is based on outstanding accounts receivable of which $1.4 million was available to the Company at March 31, 2000. The revolving credit facility expires in July 2000.

Equipment Loan Facilities

In July 1998, the Company entered into a debt agreement with a bank, which includes a $750,000 equipment loan facility. In June 1999, the Company obtained a second equipment loan facility in the amount of $1.0 million with the same bank. The first equipment loan in the amount of $750,000 expires in December 2001 and the second equipment loan in the amount of $1.0 million expires in December 2002. Borrowings under both equipment loan facilities bear interest at prime rate plus 0.75% and are due and payable in 36 equal monthly installments and are secured by certain assets of the Company. As of March 31, 2000, total borrowings under both equipment loan facilities were $1.2 million in the aggregate and $500,000 remained available under the facilities. The weighted average interest rate for the equipment loans was 8.45%, 8.5%, 9.75%, and 8.45% for 1999, 1998 and the three months ended March 31, 2000 and 1999, respectively. (See Note 8 for future minimum payments.)

Bridge Loan Facility

In November 1998, the Company obtained a $1.5 million bridge loan facility from the same bank from which the Company obtained its revolving credit facility and equipment loan facilities. Under the terms of the bridge loan facility, availability is based on several factors, including the proposed amount of the Company's Series C equity financing. In addition, the bridge loan facility prohibited the

(4) DEBT (CONTINUED) Company from making additional borrowings against the revolving credit facility until the maturity date or February 1999. Borrowings under the Bridge Loan Facility were due the earlier of (i) the closing of the Company's Series C preferred stock financing; (ii) 90 days from the initial loan; or (iii) April 30, 1999. In connection with the Bridge Loan Facility, the Company issued a warrant to purchase preferred stock with a fair value of $55,000, which was amortized over the term of the Bridge Loan Facility (see Note 6). Borrowings under the Bridge Loan Facility bear interest at prime rate plus 1% and are payable monthly. Upon the closing of the February 1999 Series C preferred stock

financing, the Company repaid all outstanding borrowings against the bridge loan facility. The weighted average interest rate for the bridge loan facility was 8.8% for 1999, 1998, and for the three months ended March 31, 2000 and 1999.

Loan and Security Agreement

On December 30, 1998, the Company entered into a loan and security agreement comprised of a $1.5 million line of credit, which expired on December 29, 1999 and a $250,000 term facility, which expires on December 29, 2000, bearing interest at the prime rate (9.5% and 7.75% as of December 1999 and 1998) plus 0.25% and prime rate plus 0.50%, respectively. The agreement is collateralized by the assets of the Company, contains certain financial covenants and restricts the Company's ability to incur other indebtedness and pay dividends. As of December 31, 1999 and 1998, there were no outstanding balances under the line of credit agreement. Borrowings under the term facility were $135,000 and $0 as of December 31, 1999 and 1998, respectively, and $104,000 as of March 31, 2000.

Financing Arrangement for Directors' and Officers' Insurance Premium

In September 1999, the Company entered into a $525,000 financing arrangement with another company to finance its directors' and officers' liability insurance premium. Borrowings under the loan agreement are payable in nine equal monthly installments of $60,000. As of March 31, 2000, total debt outstanding under this financing arrangement was $61,000 and is classified as a current liability. The weighted average interest rate for the financing arrangement for directors' and officers' insurance was 7.5% for both 1999 and the three months ended March 31, 2000.

Tumbleweed Communications Corp. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

Years Ended December 31, 1999, 1998 and 1997

(Information as of and for the Three Months Ended March 31, 2000 and 1999 Is Unaudited)

(5) Income Taxes

The difference between the amount of income tax expense recorded and the amount of income tax benefit calculated using the U.S. federal statutory rate of 34% for the years ended December 31, 1999, 1998 and 1997, are as follows (in thousands):

1999 1998 1997

Statutory federal income tax benefit	$(8,133)	$(3,984)	$ (3835)
Net operating losses not benefited	6,945	3,755	3,692
State income Tax	--	1	37
Nondeductible stock compensation expense	1,188	229	84
Foreign income tax expense	301	--	115
Other	--	--	90
Income tax expense	$ 301	$ 1	$ 183

The tax effects of temporary differences that give rise to significant portions of deferred tax assets and liabilities as of December 31, 1999 and 1998, are presented below (in thousands):

1999 1998

Deferred tax assets:		
Net operating loss carryforwards	$16,516	$ 8,014
Tax credit carryforwards	2,260	1,730
Reserves and accruals not currently deductible	2,373	1,209
Deferred research and development costs	2,022	3,889
Other	--	(69)
	23,171	14,773
Less valuation allowance	23,171	14,773
Net deferred tax assets	$ --	$ --

The Company believes that sufficient uncertainty exists with respect to future realization of these deferred tax assets; therefore, it has established a valuation allowance against all deferred tax assets.

The net change in the valuation allowance for the year ended December 31, 1999, was an increase of approximately $8.4 million.

As of December 31, 1999, the Company has federal and California net operating loss carryforwards of approximately $44.1 million and $18.5 million, respectively.

The net operating loss carryforwards expire in the years 2008 through 2019 for federal income tax purposes and the years 2000 through 2004 for California income tax purposes.

As of December 31, 1999, the Company has federal and California research and development tax credit carryforwards of approximately $1.3 million and $1.0 million, respectively. The research and development tax credit carryforwards for federal income tax purposes expire in the years 2012 through

(5) INCOME TAXES (CONTINUED) 2019. The research and development tax credit carryforwards for California income tax purposes can be carried forward indefinitely.

The Company's future ability to utilize the net operating loss and research credit carryforwards may be subject to limitations in the event of ownership changes as defined in the Internal Revenue Code.

(6) Stockholders' Equity

Convertible Preferred Stock

In August 1999, the Company sold 4,219,592 shares of its common stock (of which 219,592 shares were sold pursuant to the Underwriters' over-allotment option) through its initial public offering (IPO). At the time of the IPO, all of the Company's outstanding preferred stock automatically converted into 12,331,434 shares of common stock.

Stock Repurchase Agreements

On August 16, 1996, stock repurchase agreements were signed with the Company's Chief Technical Officer and Chief Executive Officer (the Officers). Under these agreements, the Company could repurchase a ratable portion of the shares of common stock held by the Officers if the Officers terminated their employment with the Company at any time prior to August 16, 1999. The common

stock was issued for the value of services rendered, at a value of $0.001 per share. The repurchase price would be $0.005 per share, and the total number of shares available for repurchase by the Company was reduced ratably over the three-year term of the agreements. The number of shares subject to repurchase by the Company as of December 31, 1999 and 1998, was zero and approximately 197,000, respectively.

1993 Stock Option Plan

On September 30, 1993, the Company adopted the 1993 Stock Option Plan. During 1999 and 1998, the board of directors approved an amendment to the plan to increase the number of shares authorized for issuance by 650,000 shares and 1,000,000 shares, respectively, to a total of 3,768,500 authorized shares.

Under the plan, the exercise price for incentive options is at least 100% of the fair market value on the date of grant. The exercise price for nonqualified stock options is at least 85% of the fair market value on the date of grant. Options generally expire in 10 years. Vesting periods are determined by the board of directors and generally provide for 25% of the options to vest on the first anniversary date of the grant with the remaining options vesting monthly over the following 36 months.

1999 Omnibus Stock Incentive Plan

The 1999 Omnibus Stock Incentive Plan (the Incentive Plan) was approved by stockholders on August 3, 1999, for the benefit of the officers, directors, key employees, advisors and consultants of the Company. An aggregate of 4,381,500 shares of common stock is reserved for issuance under the

(6) STOCKHOLDERS' EQUITY (CONTINUED) Incentive Plan, which provides for the issuance of stock-based incentive awards, including stock options, stock appreciation rights, limited stock appreciation rights, restricted stock, deferred stock, and performance shares.

1999 Employee Stock Purchase Plan

The 1999 Employee Stock Purchase Plan (the Purchase Plan) was approved by stockholders on August 3, 1999, which allows eligible employees to purchase common stock at a discount from fair market value. A total of 500,000 shares of common stock has been reserved for issuance under the Purchase Plan for each fiscal year occurring during the term of the Purchase Plan (the Purchase Plan will terminate in 2009).

A summary of stock option activity follows:

	OPTIONS AVAILABLE FOR GRANT	OPTIONS OUTSTANDING	WEIGHTED-AVERAGE EXERCISE PRICE
Balances, December 31, 1996	3,273,404	1,617,748	$ 4.78
Authorized	750,000	--	--
Granted	(1,033,116)	1,033,116	8.88
Exercised	--	(38,559)	5.29
Canceled	400,512	(400,512)	12.13
Balances, December 31, 1997	3,390,800	2,211,793	5.36
Authorized	2,000,000	--	--
Granted	(1,616,130)	1,616,130	2.40
Exercised	--	(204,150)	1.08
Canceled	508,103	(508,103)	9.33
Balances, December 31, 1998	4,282,773	3,115,670	3.45
Authorized	5,031,500	--	--
Granted	(2,887,186)	2,887,186	13.32
Exercised	--	(877,893)	1.42
Canceled	650,376	(650,376)	9.15
Balances, December 31, 1999	7,077,463	4,474,587	$ 9.39

Options vested as of December 31, 1999..... 893,660

Weighted-average fair value of options granted during the year:	
1999	$6.44
1998	$1.19
1997	$3.93

(6) STOCKHOLDERS' EQUITY (CONTINUED) The following table summarizes information about stock options outstanding as of December 31, 1999:

EXERCISE PRICES	NUMBER OUTSTANDING	AVERAGE REMAINING CONTRACTUAL LIFE (YEARS)	NUMBER EXERCISABLE
$0.50.....	1,623,000	8.1	640,762
0.77 - 0.80..	735,715	9.3	43,505
1.92.....	455	5.9	455
7.69 - 11.06..	283,430	9.3	43,787
11.54 - 17.13.....	988,002	8.7	151,631
17.73 - 26.00.....	565,170	9.8	3,900
30.77 - 41.00.....	223,470	9.7	8,775
49.04 - 57.25.....	45,345	9.8	845
81.44.....	10,000	10.0	--
$0.50 - 81.44.....	4,474,587	8.8	893,660

Stock-based Compensation

The Company uses the intrinsic value method prescribed by APB No. 25 in accounting for its stock-based compensation arrangements for employees. Compensation cost has been recognized for fixed stock option issuances in the accompanying consolidated financial statements because the fair value of the underlying common stock exceeds the exercise price of the stock options at the date of grant. The Company has recorded deferred compensation expense of $7.3 million, $1.7 million and $469,000, for the difference at the grant date between the exercise price and the fair value of the common stock underlying the options granted in the years ended December 31, 1999, 1998 and 1997, respectively. These amounts are being amortized on an accelerated basis over the vesting period, generally four years, consistent with the method described in FASB Interpretation No. 28. Amortization of deferred

compensation of approximately $3.5 million, $715,000 and $288,000 was recognized in the years ended December 31, 1999, 1998 and 1997, respectively. Had compensation cost for the Company's stock-based compensation plan been determined consistent with the fair value approach set

(6) STOCKHOLDERS' EQUITY (CONTINUED) forth in SFAS No. 123, the Company's net losses for the years ended December 31, 1999, 1998, and 1997, would have been as follows (in thousands, except per share amounts):

1999 1998 1997

Net loss as reported	$(24,222)	$(11,720)	$(11,461)
APB No. 25 compensation expense recorded	3,536	715	288
Additional stock-based compensation under SFAS No. 123	(3,052)	(1,171)	(1,896)
Net loss pro forma	$(23,738)	$(12,176)	$(13,069)
Basic and diluted net loss per share as reported	$ (1.65)	$ (1.79)	$ (1.90)

Basic and diluted net loss per share pro forma..... $ (1.62) $ (1.86) $ (2.17) For the year ended December 31, 1999, the fair value of options was estimated at the date of grant using a Black-Scholes option pricing model for the multiple-option approach, with the following weighted average assumptions: no dividend yield; risk-free interest rate of 5.42%, volatility factor of the expected market price of the Company's common stock of 78.0%, and a weighted-average expected life of the option of 2.0 years for all options granted prior to the IPO and 1.0 year for all options granted subsequent to the IPO. The fair value for the 1999 stock purchases under the Employee Stock Purchase Plan was estimated using the Black-Scholes model, with the following weighted-average assumptions: no dividend yield; risk-free interest rate of 5.08%; volatility factor of the expected market price of the Company's common stock of 78.0%; and the expected life of the purchase period (August 1999 through May 2000). For the years ended December 31, 1998 and 1997, the fair value of options was estimated on the date of grant using the minimum value method with the following weighted-average assumptions: no dividend yield; risk-free interest rates of 5.02% and 6.11%, respectively; and an expected life of four years.

Warrants

In connection with the Company's sale of certain technology rights to a third party in December 1997, the Company licensed the rights back from the third party in exchange for a warrant to purchase 40,000 shares of the Company's Series B convertible preferred stock at an exercise price of $2.50 per share. The warrant expired upon the closing of the IPO offering of the Company's common stock. Using the Black-Scholes option pricing model, the Company calculated the value of the warrant based on the following assumptions: no dividends; contractual term of 5 years; risk-free interest rate of 5.75%; expected volatility of 55%. The resultant expense of $28,000 is included in research and development expenses in 1997.

In connection with the November 1998 Bridge Loan Facility (see Note 4), the Company issued a warrant to acquire 20,973 shares of Series C preferred stock at an exercise price of $3.58. Using the Black-Scholes model, the warrant is valued at $2.65 per share, for a total of $55,000, based on the following assumptions: no dividends; contractual term of 10 years; risk-free interest rate of 4.86%; expected volatility of 60%. The value of the warrant was amortized over the term of the Bridge Loan Facility. The warrant expires upon the earlier of (i) November 2008; (ii) five years from the closing of

(6) STOCKHOLDERS' EQUITY (CONTINUED) an initial public offering; or (iii) the closing of an acquisition of the Company in which the Company's stock is sold for at least three times the initial exercise price. In December 1999, an option for a cash-less exercise was completed resulting in the issuance of 19,107 shares of the Company common stock and eliminating the outstanding warrant balance.

In connection with the February 1999 Series C financing, the Company's financial advisor earned the right to receive a warrant to acquire 58,725 shares of Series C convertible preferred stock at an exercise price of $3.58. Using the Black-Scholes model, the warrant is valued at $1.99 per share, for a total of $117,000, based on the following assumptions: no dividends; contractual term of 5 years; risk-free interest rate of 4.75%; expected volatility of 60%. The value of the warrant is included as an issuance cost of the Series C financing. The warrant was exercised at the time of the IPO in August 1999.

In connection with the May 1999 Series C financing, the Company issued a warrant to acquire 16,778 shares of Series C convertible preferred stock at an exercise price of $3.58. Using the Black-Scholes model, the warrant was valued at $8.51 per share, for a total of $143,000, based on the following assumptions: no dividends; contractual term of 5 years; risk-free interest rate of 4.79%; expected volatility of 60%. The value of the warrant was included as an issuance cost of the Series C financing. The warrant was exercised at the time of the IPO in August 1999.

In July 1999, in exchange for marketing and publicity assistance from a customer, the Company issued a warrant to acquire 100,000 shares of its common stock. The warrant is exercisable immediately in three tranches: 50,000 shares at an exercise price of $20 per share; 25,000 shares at an exercise price of $30 per share; and 25,000 shares at an exercise price of $40 per share. Using the Black-Scholes option pricing model, the total fair value of the warrant was estimated to be $127,000, based on the following assumptions: no dividends; contractual term of three years; risk-free interest rate of 4.8%; and expected volatility of 60%. The fair value of the warrant was charged to sales and marketing expense in the third quarter of 1999. In June 1999, the Company entered into a license agreement and a consulting agreement with the customer for a total of $355,000.

In conjunction with various financing arrangements in 1994, 1995, 1998 and 1999 the Company issued warrants to purchase 447,000 shares of common stock at prices ranging from $5.77 per share to $69.85 per share and 2 shares of Series B redeemable preferred stock now exercisable for common stock in lieu of the preferred stock at $8.62 per share. Of these warrants to purchase common stock, 433,000 related to an equity financing with affiliates of Hilal Capital Management and others completed in July 1999. A total of 440,000 warrants to purchase common stock remain available through December 31, 1999. These warrants expire at various dates through July 7, 2006.

(7) Employee Benefit Plan

The Company has a 401(k) plan that allows eligible employees to contribute a percentage of their compensation, limited to $10,000 in 1999 and 1998. The Company made no contributions in 1999 and 1998. Beginning April 1, 2000, the Company will match each eligible employee's contribution dollar for dollar up to 4% of the employee's salary. The Company matching contributions and earnings thereon vest immediately.

(Information as of and for the Three Months Ended March 31, 2000 and 1999 Is Unaudited)

(8) Commitments

Lease Commitments

The Company leases its facilities and certain equipment under operating lease agreements. The facilities leases expire at various dates through 2004. The Company also leases certain equipment under capital lease agreements. These leases expire at various dates through 2003. Future minimum lease payments as of December 31, 1999, are as follows (in thousands):

YEAR ENDING DECEMBER 31,	OPERATING LEASES	CAPITAL LEASES
2000	$1,980	$34
2001	1,897	26
2002	1,900	26
2003	1,944	8
2004	1,757	--
Thereafter	377	--
Future minimum lease payments	$9,855	94
Less amount representing interest		9
		85
Less current portion		32
Long-term portion		$53

Total rent expense under operating leases for the years ended December 31, 1999, 1998 and 1997, was $1.9 million, $942,000 and $799,000, respectively.

Royalty Agreements

During 1997 and 1998, the Company entered into royalty agreements with various companies whereby the Company was granted a right to sublicense certain software technology. Under the terms of the agreements, the Company pays royalties based on the number of software licenses sold or a percentage of revenue. Royalty expense under these agreements in 1999, 1998 and 1997 was approximately $223,000, $128,000 and $39,000, respectively, and was recorded as cost of revenue.

(9) Segment Information

The Company has adopted the provisions of SFAS No. 131, DISCLOSURE ABOUT SEGMENTS OF AN ENTERPRISE AND RELATED INFORMATION. SFAS 131 establishes standards for the reporting by public business enterprises of information about operating segments, products and services,

geographic areas, and major customers. The method for determining what information to report is based on the way that management organizes the operating segments within the Company for making operating decisions and assessing financial performance.

The Company's chief operating decision-maker is considered to be the Company's Chief Executive Officer. The CEO reviews financial information presented on a consolidated basis accompanied by disaggregated information about revenue by geographic region for purposes of making operating

(9) SEGMENT INFORMATION (CONTINUED) decisions and assessing financial performance. The consolidated financial information reviewed by the CEO is identical to the information presented in the accompanying consolidated statements of operations. Therefore, the Company operates in a single operating segment.

Revenue information regarding operations in the different geographic regions is as follows (in thousands):

	YEARS ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1999	1998	1997	2000	1999
United States	$ 9,084	$ 6,919	$2,895	$4,348	$1,980
Europe:					
Belgium	663	560	--	--	108
Switzerland	663	--	--	685	--
Other	2,947	2,429	1,403	791	717
Asia:					
Japan	1,479	--	--	384	439
Hong Kong	--	--	--	322	--
Taiwan	58	667	178	--	--
Australia	390	--	--	80	--
Other	--	--	--	--	25
Total revenue from continuing product lines	$15,284	$10,575	$4,476	$6,610	$3,269

Revenue and net loss information for the Company's product lines is as follows (in thousands):

	YEARS ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1999	1998	1997	2000	1999
Revenue:					
IME	$ 5,777	$ 2,015	$ 245	$ 3,974	$ 693
MMS	9,507	8,560	3,747	2,636	2,576
Other	--	--	484	--	--

Revenue from continuing product lines	15,284	10,575	4,476	6,610	3,269
Discontinued product line	1,472	4,888	7,580	--	638
Total revenue	$ 16,756	$ 15,463	$ 12,056	$ 6,610	$ 3,907
Net loss:					
IME and other	$(16,416)	$ (6,590)	$ (4,691)	$(10,955)	$ (2,056)
MMS and discontinued products	(7,806)	(5,130)	(6,770)	(7,667)	(875)
Total net loss	$(24,222)	$(11,720)	$(11,461)	$(18,622)	$ (2,931)

Tumbleweed Communications Corp. and Subsidiaries

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS YEARS ENDED DECEMBER 31, 1999, 1998 AND 1997 (CONTINUED)

(Information as of and for the Three Months Ended March 31, 2000 and 1999 Is Unaudited)

(9) SEGMENT INFORMATION (CONTINUED) Revenue aggregating 7%, 6%, 0%, 1% and 11% of total revenue for the years ended December 31, 1999, 1998 and 1997 and for the three months ended March 31, 2000, respectively, was generated from two customers who, or whose 50% stockholders, are stockholders of Tumbleweed, and whose ownership percentages as of March 31, 2000 were 17% and 4%, respectively.

Substantially all of the Company's long-lived assets are located in the United States.

(10) Subsequent Events (Unaudited)

On May 15, 2000, the Company repurchased from Hikari 5% of the outstanding stock of Tumbleweed KK, for a price of Y70,000,000.

On June 28, 2000, the Company entered into a merger agreement providing for the acquisition of Interface Systems, Inc. Pursuant to the merger agreement, each outstanding share of Interface common stock will be converted into the right to receive 0.264 of a share of the Company's common stock upon the closing of the merger, and the Company will assume all outstanding options and warrants of Interface. The Company will account for the transaction under the purchase method of accounting. In connection with the transaction, the Company agreed to purchase an aggregate of $3.0 million of convertible subordinated promissory notes of Interface, pursuant to a convertible subordinated note purchase agreement dated June 28, 2000. At the Company's option, or upon the occurrence of certain events, the notes are convertible into Interface common stock at an initial conversion price of $9.50 per share, subject to adjustment.

Report of Independent Public Accountants

To the Board of Directors of Interface Systems, Inc.:

We have audited the accompanying consolidated balance sheets of Interface Systems, Inc. (a Michigan corporation) and subsidiaries as of September 30, 1999 and 1998, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended September 30, 1999. 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 in accordance with generally accepted auditing standards. Those standards 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. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Interface Systems, Inc. and subsidiaries as of September 30, 1999 and 1998, and the results of their operations and their cash flows for each of the three years in the period ended September 30, 1999, in conformity with generally accepted accounting principles.

/s/ ARTHUR ANDERSEN LLP Detroit, Michigan October 29, 1999 (except with respect to the matter discussed in Notes 12 and 14, as to which date is December 22, 1999)

Interface Systems, Inc. and Subsidiaries

Consolidated Balance Sheets

	SEPTEMBER 30,		MARCH 31,
	1999	1998	2000 (UNAUDITED)
Assets			
Current assets:			
Cash and cash equivalents	$ 1,575,139	$ 301,206	$ 931,201
Accounts receivable, less allowance for doubtful accounts of $101,555, $129,381 and $88,789 at September 30, 1999, 1998 and March 31, 2000, respectively	3,689,511	4,162,320	2,655,961
Refundable income taxes	6,723	1,507,634	--
Inventories	915,977	2,218,887	527,499
Current portion of note receivable	--	--	6,751

Prepaid expenses and other	303,676	243,957	311,172
Total current assets	6,491,026	8,434,004	4,432,584
Property and equipment, net	3,188,071	3,443,349	2,407,446
Goodwill, net	789,140	974,888	696,266
Software development costs, net	--	90,549	--
Note receivable	--	--	262,972
Other assets	55,194	234,280	32,713
	$10,523,431	$13,177,070	$ 7,831,981

Liabilities and Stockholders' Equity

Current liabilities:			
Notes payable	$ --	$ 1,350,000	$ --
Accounts payable	912,018	1,392,146	877,718
Accrued expenses	1,140,155	1,666,940	1,132,865
Deferred revenue	431,252	684,406	472,027
Current portion of long-term debt	50,200	50,200	50,200
Total current liabilities	2,533,625	5,143,692	2,532,810
Long-term debt, less current portion	70,633	120,633	45,633

Commitments

Stockholders' equity (see Note 6): Common stock, no par value, 12,500,000, 12,500,000 and 25,000,000 shares authorized at September 30, 1999, 1998 and March 31, 2000 (unaudited), respectively; 4,539,529, 4,452,349 and 4,686,432 shares issued and outstanding at September 30, 1999, 1998 and March 31, 2000 (unaudited), respectively..... 11,324,418 11,059,810 11,799,884 Accumulated other comprehensive loss..... (53,117) (59,824) (56,106) Accumulated deficit..... (3,352,128) (3,087,241) (6,490,240) Total stockholders' equity..... 7,919,173 7,912,745 5,253,538 $10,523,431 $13,177,070 $ 7,831,981 The accompanying notes are an integral part of these consolidated financial statements.

Interface Systems, Inc. and Subsidiaries

Consolidated Statements of Operations

	YEARS ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,	
	1999	1998	1997	2000 (UNAUDITED)	1999 (UNAUDITED)
Net revenues	$20,169,116	$21,610,542	$ 19,084,624	$ 6,394,575	$10,073,228
Cost of revenues	7,899,004	9,471,755	14,641,081	1,959,428	4,167,813
Gross profit	12,270,112	12,138,787	4,443,543	4,435,147	5,905,415
Expenses:					
Product development	3,854,576	3,735,002	3,718,807	1,436,844	804,320
Selling, general and administrative	8,682,677	8,004,242	9,467,720	6,296,076	5,466,485
Operating income (loss) from continuing operations	(267,141)	399,543	(8,742,984)	(3,297,773)	(365,390)
Interest expense	(23,164)	(85,496)	(79,512)	(14,791)	(17,112)
Other income	66,009	40,672	116,568	181,175	70,855
Income (loss) from continuing operations before income taxes	(224,296)	354,719	(8,705,928)	(3,131,389)	(311,647)

Income tax (benefit) provision	40,591	(412,243)	(2,100,810)	6,723	--
Income (loss) from continuing operations	(264,887)	766,962	(6,605,118)	(3,138,112)	(311,647)
Loss from discontinued operations	--	(748,243)	(4,273,964)	--	--
Loss on disposal of discontinued operations	--	(2,140,262)	--	--	--
Net loss	$ (264,887)	$(2,121,543)	$(10,879,082)	$(3,138,112)	$ (311,647)
Basic and diluted income (loss) per share:					
Income (loss) from continuing operations	$ (0.06)	$ 0.17	$ (1.50)	$ (0.68)	$ (0.07)
Loss from discontinued operations	--	(0.65)	(0.97)	--	--
Net loss per share	$ (0.06)	$ (0.48)	$ (2.47)	$ (0.68)	$ (0.07)
Weighted average shares outstanding	4,480,842	4,434,083	4,411,328	4,607,993	4,463,867

The accompanying notes are an integral part of these consolidated financial statements.

Interface Systems, Inc. and Subsidiaries

Consolidated Statements of Stockholders' Equity

	COMMON STOCK		ACCUMULATED OTHER COMPREHENSIVE	RETAINED EARNINGS		COMPREHENSIVE
	SHARES	AMOUNT	LOSS	(DEFICIT)	TOTAL	LOSS
Balance, September 30, 1996	4,535,879	$11,575,651	$(236,051)	$ 9,913,384	$ 21,252,984	
Net loss	--	--	--	(10,879,082)	(10,879,082)	$(10,879,082)
Sale of stock	16,566	51,768	--	--	51,768	
Retirement of stock	(127,495)	(637,477)	--	--	(637,477)	
Foreign currency translation	--	--	(45,390)	--	(45,390)	(45,390)
Comprehensive loss						$(10,924,472)
Balance, September 30, 1997	4,424,950	10,989,942	(281,441)	(965,698)	9,742,803	
Net loss	--	--	--	(2,121,543)	(2,121,543)	$ (2,121,543)
Sale of stock	27,399	69,868	--	--	69,868	
Foreign currency translation	--	--	221,617	--	221,617	221,617
Comprehensive loss						$ (1,899,926)
Balance, September 30, 1998	4,452,349	11,059,810	(59,824)	(3,087,241)	7,912,745	
Net loss	--	--	--	(264,887)	(264,887)	$ (264,887)
Sale of stock	87,180	264,608	--	--	264,608	
Foreign currency translation	--	--	6,707	--	6,707	

6,707					
Comprehensive loss.....					$ (258,180)
Balance, September 30, 1999.....	4,539,529	11,324,418	(53,117)	(3,352,128)	7,919,173
Net loss (unaudited).....	--	--	--	(3,138,112)	(3,138,112)
$ (3,138,112)					
Sale of stock (unaudited).....	146,903	475,466	--	--	475,466
Foreign currency translation (unaudited).....	--	--	(2,989)	--	(2,989)
(2,989)					
Comprehensive loss (unaudited).....					$ (3,141,101)
Balance, March 31, 2000 (unaudited).....	4,686,432	$11,799,884	$ (56,106)	$ (6,490,240)	$ 5,253,538

The accompanying notes are an integral part of these consolidated financial statements.

Interface Systems, Inc. and Subsidiaries

Consolidated Statements of Cash Flows

		YEARS ENDED SEPTEMBER 30,			SIX MONTHS ENDED
	1999	1998	1997	2000	MARCH 31, 1999
					(UNAUDITED) (UNAUDITED)
Cash flows from operating activities:					
Net loss.....	$ (264,887)	$(2,121,543)	$(10,879,082)	$(3,138,112)	$ (311,647)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:					
Depreciation and amortization.....	1,019,758	1,866,555	3,170,787	403,464	558,040
Inventory write-off and obsolescence provision.....	312,500	445,580	2,811,573	--	--
Loss on disposal of fixed assets.....	38,269	9,785	52,639	--	--
Deferred income taxes.....	--	(140,000)	(895,000)	--	--
Gain on sale of IGK.....	--	--	--	(36,736)	--
Loss on disposal of discontinued operations.....	--	2,140,262	--	--	--
Gain on sale of securities.....	--	--	(74,777)	--	--
Write-off of software development costs.....	--	--	1,616,358	--	--
Change in operating assets and liabilities:					
Accounts receivable.....	472,809	(881,774)	(701,182)	633,608	809,432
Refundable income taxes.....	1,500,911	(325,452)	195,911	6,723	

1,459,874					
Inventories	990,410	1,177,280	246,880		
(37,447)	577,523				
Prepaid expenses and other	(59,719)	574,068	(328,265)		
(27,427)	(54,354)				
Other assets	178,136	(59,517)	(119,750)	22,481	
1,774					
Accounts payable	(480,128)	(346,450)	207,047	199,752	
(121,881)					
Accrued expenses	(526,785)	247,072	(10,020)		
(44,479)	(530,461)				
Deferred revenue	(253,154)	45,697	358,006	40,775	
(75,686)					
Discontinued operations--non-cash charges and working capital changes	--	1,056,317	2,124,241	--	
--					
Net cash provided by (used in) operating activities	2,928,120	3,687,880	(2,224,634)		
(1,977,398)	2,312,614				
Cash flows from investing activities:					
Proceeds from sale of IGK	--	--	--	1,078,556	
--					
Proceeds received on note issued on sale of IGK	--	--	--	80,277	
--					
Additions to property and equipment	(525,502)	(289,134)	(487,047)		
(272,850)	(233,886)				
Proceeds from disposal of discontinued operations	--	3,121,500	--	--	
--					
Investing activities of discontinued operations	--	--	(300,790)	--	
--					
Additions to software development costs	--	--	(953,675)	--	
--					
Change in notes receivable	--	--	86,581	--	
--					
Proceeds from sale of securities	--	--	177,612	--	
--					
Net cash provided by (used in) investing activities	(525,502)	2,832,366	(1,477,319)	885,983	
(233,886)					
Cash flows from financing activities:					
Net borrowings (repayments) under notes payable	(1,350,000)	(7,290,611)	2,949,065	--	
(1,350,000)					
Reduction of long-term debt	(50,000)	(50,000)	(66,361)		
(25,000)	(25,000)				
Proceeds from sale of common stock	264,608	69,868	--	475,466	
44,056					
Net cash provided by (used in) financing activities	(1,135,392)	(7,270,743)	2,882,704	450,466	
(1,330,944)					
Effect of exchange rate changes on cash	6,707	221,617	(45,390)		
(2,989)	49,632				
Net increase (decrease) in cash and cash equivalents	1,273,933	(528,880)	(864,639)		
(643,938)	797,416				
Cash and cash equivalents, beginning of period	301,206	830,086	1,694,725	1,575,139	
301,206					
Cash and cash equivalents, end of period	$ 1,575,139	$ 301,206	$ 830,086	$ 931,201	
$ 1,098,622					
Supplemental disclosure of cash flow information:					
Cash paid for interest	$ 23,164	$ 85,496	$ 79,512	$ 14,791	

```
$    17,112
  Cash refunded for income taxes.................  $(1,558,668)  $       --   $ (1,323,683)  $       --
$(1,558,221)
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The accompanying notes are an integral part of these consolidated financial statements.

Interface Systems, Inc. and Subsidiaries

Notes to Consolidated Financial Statements

(Information for the Six-month Periods Ended March 31, 2000 and 1999 Are Unaudited)

1. Significant Accounting Policies

DESCRIPTION OF BUSINESS. Interface Systems, Inc. (the "Company") primarily develops and sells software-based tools and solutions to integrate legacy systems with Internet technology, distribute mainframe documents, and provide host connectivity. The Company specializes in Internet bill presentment and payment, as well as electronic delivery of statements and other legacy content to the Internet, fax, e-mail, and other destinations. The Company operates primarily in the United States and Europe.

BASIS OF PRESENTATION. The accompanying consolidated financial statements include the accounts of Interface Systems, Inc. and its wholly-owned subsidiaries, IGK Industries, Inc. ("IGK") and Interface Systems International, Ltd. ("ISIL"). All significant intercompany transactions and balances have been eliminated in consolidation.

As discussed in Note 2, in May 1998, the Company sold substantially all assets and certain liabilities of the ISIL distribution business. Accordingly, the assets, liabilities and operating results of ISIL have been presented as a discontinued operation in the accompanying consolidated financial statements.

FOREIGN CURRENCY TRANSLATION. Assets and liabilities of the Company's foreign operations are translated at exchange rates in effect on the balance sheet date, and revenue and expenses are translated using a weighted average exchange rate during the period. Cumulative adjustments resulting from translation of financial statements are reflected as a separate component of stockholders' equity.

REVENUE RECOGNITION. Revenues from product sales are recognized upon shipment to the customer. Lease and service revenues are recognized ratably over the contractual period or as the services are performed. Revenues from licenses of software products are recognized when the product is shipped and the Company has no further obligation to the customer. Deferred revenue represents advance billings on service contracts.

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses are expensed in the period incurred. These costs, representing development salaries, fringe benefits, other direct expenses and a portion of the Company's overhead, are included in the accompanying consolidated financial statements as product development costs.

CASH AND CASH EQUIVALENTS. Cash and cash equivalents includes investments in highly liquid financial instruments with maturities of ninety days or less.

Interface Systems, Inc. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(Information for the Six-month Periods Ended March 31, 2000 and 1999 Are Unaudited)

1. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) INVENTORIES. Inventories are valued at the lower of cost (determined on a first-in, first-out basis) or market, and consist of the following:

	SEPTEMBER 30, 1999	1998	MARCH 31, 2000 (UNAUDITED)
Finished goods	$ 64,386	$ 897,050	$ --
Purchased parts	557,703	650,346	527,499
Work-in-process	293,888	293,590	--
Service and demo	--	377,901	--
	$915,977	$2,218,887	$527,499

PROPERTY AND EQUIPMENT. Additions to property and equipment are stated at cost. Depreciation is provided using the straight-line method over the following estimated useful lives of the assets: building and improvements--33 years; and machinery and equipment--3 to 10 years. The components of property and equipment are as follows:

	SEPTEMBER 30, 1999	1998	MARCH 31, 2000 (UNAUDITED)
Land	$ 231,383	$ 231,383	$ 231,383
Buildings and improvements	2,406,039	2,397,603	1,692,854
Machinery and equipment	4,721,948	4,865,444	3,265,245
	7,359,370	7,494,430	5,189,482
Less--accumulated depreciation	4,171,299	4,051,081	2,782,036
	$3,188,071	$3,443,349	$2,407,446

GOODWILL. Goodwill represents the cost in excess of fair value of the net assets of businesses acquired and is being amortized using the straight-line method over 15 years. Accumulated amortization expense at September 30, 1999, 1998 and March 31, 2000, was $1,899,272, $1,713,524 and $1,992,146, respectively. Goodwill amortization expense totaled $185,748, $185,748 and $260,532 for the years ended September 30, 1999, 1998 and 1997, respectively, and is included in

selling, general and administrative expense in the accompanying consolidated statements of operations. Goodwill amortization expense totaled $92,874 for the six months ended March 31, 2000 and 1999.

IMPAIRMENT OF LONG-LIVED ASSETS. In fiscal 1997, the Company adopted SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of" which requires an evaluation of long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. During the third quarter of fiscal 1997, management's evaluation indicated that the goodwill related to the Company's investment in its operations in the United Kingdom was impaired and, consequently, the $1,456,320 carrying value of the related goodwill was written off as a component of the loss from discontinued operations during fiscal 1997.

Interface Systems, Inc. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(Information for the Six-month Periods Ended March 31, 2000 and 1999 Are Unaudited)

1. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) SOFTWARE DEVELOPMENT COSTS. The costs of developing new software products are capitalized after technological feasibility is established which the Company defines as having a working model that has been confirmed by testing. The ongoing assessment of recoverability of capitalized software development costs requires considerable judgment by management with respect to certain external factors, including, but not limited to, anticipated future gross product revenues, estimated economic product lives and changes in software and hardware technology. With the increase in frequency of product upgrades and a reduction in the time between establishing technological feasibility and general release to the public, the Company expects that it will not capitalize any software development costs in the future.

Amortization of capitalized software development costs is provided on a product-by-product basis using the straight-line method over the remaining estimated economic lives of the respective products or three years, whichever is less. Accumulated amortization was $3,003,596, $2,913,047 and $3,003,596 at September 30, 1999, 1998 and March 31, 2000, respectively. Amortization expense was $90,549, $784,103 and $2,033,210 for the years ended September 30, 1999, 1998 and 1997, respectively, and is included in cost of revenues in the accompanying consolidated statements of operations. Amortization expense was $0 and $46,466 for the six months ended March 31, 2000 and 1999, respectively.

On an ongoing basis, management reviews the valuation and amortization of capitalized software development costs. As part of its review, management considers the value of future cash flows attributable to the capitalized development costs in evaluating potential impairment of the asset. Based on such review, the Company wrote off $1,616,358 of capitalized software development costs as a component of cost of revenues during fiscal 1997. No such costs were written off in fiscal 2000, 1999 or 1998.

STOCK-BASED COMPENSATION. The Company accounts for stock-based compensation using the intrinsic value method prescribed in APB Opinion No. 25, "Accounting for Stock Issued to Employees," and related interpretations. Accordingly, compensation cost for stock options is measured as the excess, if any, of the quoted market price of the stock at grant date over the amount an employee must pay to acquire the stock. As supplemental information, the Company has provided pro forma disclosures of stock options granted during fiscal 2000, 1999 and 1998 in accordance with the requirements of SFAS No. 123, "Accounting for Stock-Based Compensation" (see Note 8).

CONCENTRATIONS OF CREDIT RISK. Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash, cash equivalents and accounts receivable. At times, such cash and equivalents in banks are in excess of the respective financial institution's FDIC insurance limit. With respect to accounts receivable, the Company attempts to minimize credit risk by reviewing all customers' credit history before extending credit and by monitoring customers' credit exposure on a continuing basis. The Company establishes an allowance for possible losses on accounts receivable based upon factors surrounding the credit risk of specific customers, historical trends and other information.

FAIR VALUES OF FINANCIAL INSTRUMENTS. The amounts reported for cash and cash equivalents, accounts receivable, accounts payable, notes payable and accrued expenses approximate fair value due to the short maturity of these items.

Interface Systems, Inc. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(Information for the Six-month Periods Ended March 31, 2000 and 1999 Are Unaudited)

1. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) INCOME (LOSS) PER SHARE. Income (loss) per share amounts have been calculated using the weighted average number of shares of common stock outstanding during the period. Outstanding stock options do not have a dilutive effect on income (loss) per share for any periods presented due to the net loss. In fiscal 1998, the Company adopted SFAS No. 128, "Earnings per Share." No amounts from prior periods needed to be restated to conform to the requirements of SFAS No. 128.

In 1999, 1998 and 1997, the dilutive effect of certain stock options outstanding for the purchase of 818,202, 696,867 and 531,767 shares, respectively, were not included in the calculation of diluted earnings per share due to the net loss for those periods as doing so would have been anti-dilutive. For the six months ended March 31, 2000, the excluded options were 811,118 shares.

COMPREHENSIVE INCOME. Effective October 1, 1998, the Company adopted SFAS No. 130, "Reporting Comprehensive Income", which established standards for reporting and display of comprehensive income and its components in a full set of financial statements. Comprehensive income is the total of net income and all other non-owner changes in equity. The difference between net income (loss), as reported in the accompanying consolidated statements of operations, and comprehensive income (loss) is the foreign currency translation adjustment for the respective periods. The accumulated other comprehensive loss consists solely of the cumulative translation adjustment as presented in the accompanying consolidated balance sheets.

USE OF ESTIMATES. The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

IMPACT OF RECENTLY ISSUED ACCOUNTING STANDARDS. The Financial Accounting Standards Board has issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities". The Company is required to adopt the provisions of SFAS 133 in fiscal 2000. The Company expects the adoption will not affect results of operations or financial statements.

RECLASSIFICATIONS. For comparative purposes, certain amounts reported in prior years' financial statements have been reclassified to conform to current year presentations.

2. SALE OF INTERFACE SYSTEMS INTERNATIONAL LTD. DISTRIBUTION BUSINESS; DISCONTINUED OPERATIONS In May 1998, the Company sold substantially all assets and certain liabilities of its ISIL distribution business to Fayrewood plc for approximately $3.1 million cash. The liabilities not assumed by Fayrewood include the lease on the building in the United Kingdom (see Note 9) and certain accounts payable of approximately $385,000. The sale resulted in a loss of $2,140,262. The sale did not include the assumption by Fayrewood of all of ISIL's liabilities, and therefore, no assurances can be given that claims will not be made against the Company in the future arising out of ISIL's former operations. In management's opinion, such claims will not have a material adverse effect on the Company's financial condition and results of operations.

The operating results of ISIL have been segregated from continuing operations and reported as a separate line item on the Company's consolidated statement of operations. The Company has restated

2. SALE OF INTERFACE SYSTEMS INTERNATIONAL LTD. DISTRIBUTION BUSINESS; DISCONTINUED OPERATIONS (CONTINUED) its prior financial statements to present the operating results of ISIL as a discontinued operation. Net revenues of the ISIL distribution business totaled $38.8 million and $62.8 million, for fiscal 1998 and 1997, respectively.

3. Line of Credit

The Company had a $3.5 million bank credit facility that expired on February 28, 2000. As of September 30, 1999, there were no borrowings outstanding under this facility. Advances bore interest at the bank's prime rate (8.25% at September 30, 1999) plus 1%, were payable on demand and were collateralized by substantially all of the Company's assets. The amount available for borrowing at any time was based on borrowing base formulas relating to levels of accounts receivable, inventories and other bank covenants. Under such formulas, the entire facility was available to the Company as of September 30, 1999.

In May 2000, the Company completed the renewal of its bank credit facility expanding the borrowing capability from $3.5 to $5.0 million. The new credit facility expires on May 31, 2001. Advances bear interest at the bank's prime rate (9.0% at March 31, 2000) plus 1%, are payable on demand and are collateralized by substantially all of the Company's assets. The amount available for borrowing at any time is based on borrowing base formulas relating to levels of accounts receivable and other bank covenants. Under such formulas, $4.2 million was available to the Company at March 31, 2000.

Under the terms of the credit agreement, the Company is required to maintain certain minimum working capital, net worth and profitability levels and other specific financial ratios. In addition, the credit agreement prohibits the payment of cash dividends and contains certain restrictions on the Company's ability to borrow money or purchase assets or interests in other entities without the prior written consent of the bank. At March 31, 2000, the Company was in compliance with the new bank covenants.

4. Long-term Debt

Long-term debt consists of an installment loan payable to a bank in monthly installments of $4,167 plus interest at the bank's prime rate (8.25% at September 30, 1999) plus 1%, due February 2002, and is collateralized by substantially all of the Company's assets. Long-term debt consists of the following:

	SEPTEMBER 30,		MARCH 31,
	1999	1998	2000 (UNAUDITED)
Installment loan payable.....	$120,833	$170,833	$95,833
Less--current maturities.....	50,200	50,200	50,200
	$ 70,633	$120,633	$45,633

5. Retirement Plan

The Company has a 401(k) plan covering substantially all United States employees. The Company matches 100% of the amount contributed by participants, up to 4% of participant compensation, and may make additional contributions as approved by the Board of Directors. The Company recognized approximately $242,676, $211,247, and $274,000 of expense related to this plan for the years ended September 30, 1999, 1998 and 1997, respectively. The Company recognized approximately $122,000 and $99,000 of expense for the six months ended March 31, 2000 and 1999, respectively.

6. Stockholders' Equity

In March 1998, the Company changed its state of incorporation from Delaware to Michigan. In connection therewith, the number of shares of Common Stock authorized was changed from 20,000,000 to 12,500,000 and the par value of the Common Stock was changed from $0.10 to no par value. In February 2000, the Company increased the number of shares of authorized Common Stock from 12,500,000 to 25,000,000.

In January 1997, the Company acquired 127,495 shares of its Common Stock valued at $637,477, upon the default in payment of all principal and interest due and owing as of such date by a former officer of the Company under the terms of a note payable owed by such officer to the Company. The

value of the shares is equal to all indebtedness which was owed to the Company at the time of default. In August 1997, the Company issued 16,566 shares of common stock to employees in exchange for accrued vacation.

7. Employee Stock Purchase Plan

The Company's Employee Stock Purchase Plan (the "ESPP") was adopted by the Company's Board of Directors in February 1998. A total of 225,000 shares of common stock have been reserved for issuance under the ESPP. The ESPP provides that the Company will sell shares to employees who elect to participate in the ESPP at a price equal to 85% of the lesser of the fair market value of the common stock on the first or last trading day of the six month period beginning either June 1 or December 1. Under the ESPP, the Company issued 40,688, 36,549 and 27,399 shares of common stock in fiscal 2000, 1999 and 1998, respectively.

8. Stock Options

The Company currently grants stock options under two plans, the 1992 Stock Option Plan (the "1992 Plan") and the 1993 Stock Option Plan for Non-Employee Directors (the "Directors Plan"). The Company had previously granted options under the 1982 Stock Option Plan ("the 1982 Plan"), which expired in 1992. At September 30, 1999, options to purchase 12,700 shares of common stock were outstanding and exercisable under the 1982 Plan. In fiscal 1998, the Company also granted non-qualified stock options to employees and to an employee director upon his retirement to purchase 40,100 shares of common stock. At September 30, 1999, options to purchase 33,900 shares of common stock were outstanding and 24,500 were exercisable under these non-qualified grants.

The 1992 Plan provides for the grant of both incentive stock options and non-qualified options to officers and key employees. Options under the 1992 Plan are granted at not less than market price on the date of grant, are exercisable at the rate of 33% per year after one year from the date of grant and

8. STOCK OPTIONS (CONTINUED) have a term of ten years. The 1992 Plan has 800,000 shares of common stock authorized for grant. At September 30, 1999, 105,567 shares were available for grant, 644,102 were outstanding and 261,969 were exercisable under the 1992 Plan.

Effective June 10, 1997, the Company offered current option holders except for executive officers the opportunity to exchange outstanding options for an equal number of options of the Company's common stock, at a price of $4 per share (market price $3). Option holders representing 106,067 shares of common stock accepted this offer and the Company canceled the previous options and granted new options under the 1992 Plan. The options vest over three years effective from the new date of grant.

The Directors Plan provides for the grant to non-employee directors of options to purchase up to 175,000 shares of common stock. The Plan provides for discretionary grants with vesting determined at the time of grant. Options are granted at market price on the date of grant and have a term of ten years. At September 30, 1999, 47,500 shares were available for grant, 127,500 were outstanding and exercisable under the Directors Plan.

The following table summarizes stock option activity through March 31, 2000:

	NUMBER OF SHARES	WEIGHTED AVERAGE EXERCISE PRICE
Balance, September 30, 1996	408,666	$ 6.86
Granted	419,268	3.94
Canceled	(296,167)	7.10
Balance, September 30, 1997	531,767	4.59
Granted	295,900	2.67
Canceled	(130,800)	3.93
Balance, September 30, 1998	696,867	3.90
Granted	212,100	2.94
Exercised	(50,631)	3.61
Canceled	(40,134)	3.93
Balance, September 30, 1999	818,202	3.67
Granted (unaudited)	118,300	16.45
Exercised (unaudited)	(108,215)	3.77
Canceled (unaudited)	(17,169)	3.31
Balance, March 31, 2000 (unaudited)	811,118	5.49

8. STOCK OPTIONS (CONTINUED) The following table summarizes information about options outstanding at September 30, 1999:

	OPTIONS OUTSTANDING			OPTIONS EXERCISABLE	
RANGE OF EXERCISE	NUMBER	WEIGHTED AVERAGE CONTRACTUAL REMAINING	WEIGHTED AVERAGE	NUMBER	WEIGHTED AVERAGE

PRICES	OUTSTANDING	LIFE (YEARS)	EXERCISE PRICE	EXERCISABLE	EXERCISE PRICE
$ 2.25.....	121,600	8.89	$ 2.25	40,766	$ 2.25
2.75-4.13.....	612,702	8.18	3.50	304,003	3.75
4.75-5.38.....	62,000	4.89	5.16	62,000	5.16
7.19.....	1,500	5.11	7.19	1,500	7.19
11.00-16.25.....	20,400	6.32	12.31	20,400	12.31
Total.....	818,202	7.98	$ 3.67	428,669	$ 4.23

The following table summarizes information about options outstanding at March 31, 2000:

	OPTIONS OUTSTANDING			OPTIONS EXERCISABLE	
RANGE		WEIGHTED AVERAGE	WEIGHTED		WEIGHTED
OF EXERCISE	NUMBER	CONTRACTUAL REMAINING	AVERAGE	NUMBER	AVERAGE
PRICES	OUTSTANDING	LIFE (YEARS)	EXERCISE PRICE	EXERCISABLE	EXERCISE PRICE
$ 2.25.....	114,566	8.39	$ 2.25	33,535	$ 2.25
2.75-4.13.....	534,402	7.65	3.55	370,711	3.73
4.31-5.38.....	25,500	3.56	5.28	25,500	5.28
7.19-7.50.....	250	4.61	7.19	250	7.19
11.00-16.25.....	124,400	9.01	13.74	20,400	12.31
37.50.....	12,000	9.88	37.50	12,000	37.50
Total.....	811,118	7.87	$ 5.49	462,396	$ 4.97

Stock-based Compensation

Using the intrinsic value method of accounting for the value of stock options granted during fiscal 1999, 1998 and 1997, no compensation cost was recorded in the accompanying consolidated statements of operations. Had compensation cost been determined based on the fair value at the date of grant for awards in fiscal 2000, 1999 and 1998 consistent with the provisions of SFAS No. 123, income (loss)

8. STOCK OPTIONS (CONTINUED) from continuing operations and income (loss) per share from continuing operations would have been reduced (increased) to the pro forma amounts indicated below:

	YEAR ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,
	1999	1998	1997	2000 (UNAUDITED)
Income (loss) from continuing operations:				
As reported	$(264,887)	$766,962	$(6,605,118)	$(3,138,112)
Pro forma	$(668,630)	$412,716	$(6,749,711)	$(3,565,601)
Income (loss) per share from continuing operations:				
As reported	$ (0.06)	$ 0.17	$ (1.50)	$ (0.68)
Pro forma	$ (0.15)	$ 0.09	$ (1.53)	$ (0.77)

The weighted average estimated fair value of stock options granted during fiscal 2000, 1999, 1998 and 1997 was $11.39, $1.61, $1.42 and $2.32, respectively. The fair value of each option grant was estimated on the date of grant using the Black-Scholes option-pricing model. Because the SFAS No. 123 method of accounting has not been applied to options granted prior to October 1, 1995, the resulting pro forma compensation cost may not be representative of that to be expected in future years. The following weighted average assumptions were used in valuing the option grants:

	YEAR ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,
	1999	1998	1997	2000
Expected life (years)	3.0	3.0	3.0	3.0
Risk free interest rate	5.0%	5.5%	6.3%	6.1%
Expected stock price volatility	79.0%	78.8%	67.8%	107.7%
Expected dividend yield	0.0%	0.0%	0.0%	0.0%

9. Commitments

The Company has various non-cancelable operating leases which require future minimum rental payments in excess of one year as follows: 2000--$133,000; 2001--$65,000; 2002--$24,000; and 2003--$2,500. Rent expense under all leases for the years ended September 30, 1999, 1998 and 1997 was approximately $241,000, $296,000 and $338,000, respectively. Rent expense for the six months ended March 31, 2000 and 1999, was approximately $85,000 and $69,000, respectively.

In connection with the sale of the ISIL distribution business, the Company assumed the operating lease obligation for ISIL's former office building. The building lease has future minimum payments of approximately $177,000 per year and expires in April 2020. The building has been sublet through April 2003 on the same terms and conditions as the master lease. The Company believes that it will continue to be able to sublease the office building throughout the master lease period and that its

9. COMMITMENTS (CONTINUED) ultimate exposure will not have a material impact on the consolidated financial statements. Therefore, no liability has been recorded in the accompanying consolidated balance sheets for this lease.

10. Income Taxes

A summary of income (loss) from continuing operations before income taxes and components of the provision (benefit) for income taxes is as follows:

	YEAR ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,
	1999	1998	1997	2000 (UNAUDITED)
Income (loss) from continuing operations before income taxes:				
Domestic	$(122,179)	$ 581,628	$(7,572,504)	$(2,965,105)
Foreign	(102,117)	(226,909)	(1,133,424)	(166,284)
	$(224,296)	$ 354,719	$(8,705,928)	$(3,131,389)
Provision (benefit) for income taxes:				
Current--federal	$ 40,591	$(272,243)	$(1,205,810)	$ 6,723
Deferred--federal	--	(140,000)	(895,000)	--
	$ 40,591	$(412,243)	$(2,100,810)	$ 6,723

A reconciliation of the consolidated income tax provision (benefit) at the Federal statutory rate and the consolidated income tax provision (benefit) at the Company's effective rate is as follows:

	YEAR ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,
	1999	1998	1997	2000 (UNAUDITED)
Federal statutory provision (benefit)	$(76,000)	$ 121,000	$(2,960,000)	$(1,065,000)
Utilization of tax benefits	--	(336,000)	--	--

Increase to (reduction of) taxes provided in prior years	40,591	(272,243)	--	6,723
Losses without tax benefit	25,000	--	682,000	1,026,000
Amortization of goodwill	63,000	63,000	63,000	32,000
Other	(12,000)	12,000	114,190	7,000
Consolidated income tax provision (benefit)	$ 40,591	$(412,243)	$(2,100,810)	$ 6,723

10. INCOME TAXES (CONTINUED) Deferred income taxes represent temporary differences in the recognition of certain items for income tax and financial reporting purposes. The components of the Company's deferred taxes are as follows:

	SEPTEMBER 30, 1999	1998	MARCH 31, 2000 (UNAUDITED)
Deferred tax liabilities--			
Depreciation and amortization	$ (260,000)	$ (375,000)	$ (226,000)
Deferred tax assets--			
Net operating loss carry forwards	3,069,000	3,044,000	4,116,000
Receivable and inventory reserves	174,000	311,000	170,000
Accrued liabilities	44,000	107,000	15,000
Tax credits	354,000	162,000	431,000
Gross deferred income taxes	3,381,000	3,249,000	4,506,000
Valuation allowance	(3,381,000)	(3,249,000)	(4,506,000)
Net deferred income taxes	$ --	$ --	$ --

The Company has pre-tax net operating loss carryforwards of approximately $12,100,000 available for tax reporting purposes which can be used to offset its future taxable income whereby $8,954,000 of the loss carryforward expires in 2018, $134,000 expires in 2019 and $3,012,000 expires in 2020. The related deferred tax benefit is fully offset by a valuation allowance as management does not believe that realization of the tax benefit is more likely than not.

11. Geographic and Industry Segment Information

Effective in fiscal 1999, the Company adopted SFAS No. 131, "Disclosures About Segments of an Enterprise and Related Information." Under the provisions of SFAS No. 131, the Company operates in one segment--the development, marketing and support of software products and computer peripherals. The Company operates in two geographic regions: the United States and Europe.

Management evaluates business segment performance based on income from continuing operations.

The following table shows net revenues, net income (loss) and identifiable assets by geographic region:

	YEAR ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,	
	1999	1998	1997	2000	1999
				(UNAUDITED)	
Net revenues:					
United States	$18,893,190	$20,321,710	$18,505,583	$5,999,608	$ 9,524,388
Europe	2,013,197	1,726,486	1,927,508	456,295	956,064
Intercompany	(737,271)	(437,654)	(1,348,467)	(61,328)	(407,224)
	$20,169,116	$21,610,542	$19,084,624	$6,394,575	$10,073,228

	SEPTEMBER 30,		MARCH 31,
	1999	1998	2000
Identifiable assets:			
United States	$11,365,644	$12,196,307	$ 8,772,083
Europe	1,260,997	1,208,934	1,007,122
Discontinued business	--	--	--
Eliminations	(2,103,210)	(228,171)	(1,947,224)
	$10,523,431	$13,177,070	$ 7,831,981

One Cleo Enterprise Networking products customer accounted for 13% of 1998 consolidated net revenue. No customer accounted for more than 10% of consolidated net revenue in fiscal 2000, 1999 or 1997.

12. Subsequent Event

On December 22, 1999, the Company sold its subsidiary, IGK Industries, Inc. for $1,450,000 which the Company expects will result in a small gain. The purchaser acquired all assets and assumed all current liabilities of IGK. Also included in the sale was the building that houses IGK's operations which was

owned by the Company and leased to IGK. See Note 14 for unaudited pro forma data related to this transaction.

Interface Systems, Inc. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(Information for the Six-month Periods Ended March 31, 2000 and 1999 Are Unaudited)

13. Selected Quarterly Financial Data (Unaudited)

The following is a summary of selected quarterly financial data for the years ended September 30, 1999 and 1998.

	QUARTER ENDED				
	DEC. 31,	MARCH 31,	JUNE 30,	SEPT. 30,	FISCAL YEAR
1999					
Net revenues	$5,211,186	$4,862,042	$5,201,865	$4,894,023	$20,169,116
Gross profit	3,109,747	2,795,668	3,205,635	3,159,062	12,270,112
Net income (loss)	130,098	(441,745)	228,753	(181,993)	(264,887)
Net earnings (loss) per share	0.03	(0.10)	0.05	(0.04)	(0.06)

	QUARTER ENDED				
	DEC. 31,	MARCH 31,	JUNE 30,	SEPT. 30,	FISCAL YEAR
1998					
Net revenues	$5,623,214	$5,066,318	$4,826,340	$6,094,670	$21,610,542
Gross profit	3,231,276	2,730,135	2,806,289	3,371,087	12,138,787
Income (loss) from continuing operations:					
Income (loss)	151,652	21,287	(66,858)	660,881	766,962
Income (loss) per share	0.03	0.01	(0.02)	0.15	0.17
Net income (loss)	(62,628)	(2,303,676)	(66,858)	311,619	(2,121,543)
Net earnings (loss) per share	(0.01)	(0.52)	(0.02)	0.07	(0.48)

14. Pro Forma Data (Unaudited)

The following unaudited pro forma consolidated condensed balance sheet as of September 30, 1999, and unaudited pro forma consolidated condensed statement of operations for the year then ended, give pro forma effect to the disposition of IGK as if it had occurred as of October 1, 1998. The unaudited pro forma consolidated condensed balance sheet and statement of operations do not purport to be indicative of the financial position or the results of operations of the Company had the transaction actually been completed as of October 1, 1998, or which may be obtained in the future.

14. PRO FORMA DATA (UNAUDITED) (CONTINUED) PRO FORMA CONSOLIDATED CONDENSED BALANCE SHEET AS OF SEPTEMBER 30, 1999 (IN THOUSANDS)

	HISTORICAL INTERFACE SYSTEMS, INC.	HISTORICAL IGK INDUSTRIES, INC.	PRO FORMA ADJUSTMENTS	PRO FORMA HISTORICAL
Current Assets:				
Cash and cash equivalents	$ 1,575	$ --	$1,100	$ 2,675
Accounts receivable, net	3,690	359	106	3,437
Inventories	916	466	--	450
Prepaid expenses and other	310	12	--	298
Total current assets	6,491	837	1,206	6,860
Property and equipment, net	3,188	509	(224)	2,455
Goodwill, net	789	--	--	789
Note receivable	--	--	270	270
Other assets	55	--	--	55
	$10,523	$1,346	$1,252	$10,429
Current Liabilities:				
Accounts payable	$ 912	$ 92	$ --	$ 820
Accrued expenses	1,190	65	--	1,125
Deferred revenue	431	--	--	431
Total current liabilities	2,533	157	--	2,376
Long-term debt	71	--	--	71
Stockholders' Equity:				
Common stock	11,324	450	450	11,324
Accumulated deficit	(3,352)	739	802	(3,289)
Accumulated other comprehensive loss	(53)	--	--	(53)
Total stockholders' equity	7,919	1,189	1,252	7,982

	$10,523	$1,346	$1,252	$10,429

Interface Systems, Inc. and Subsidiaries

Notes to Consolidated Financial Statements (Continued)

(Information for the Six-month Periods Ended March 31, 2000 and 1999 Are Unaudited)

14. PRO FORMA DATA (UNAUDITED) (CONTINUED) PRO FORMA CONSOLIDATED CONDENSED STATEMENT OF OPERATIONS FOR THE YEAR ENDED SEPTEMBER 30, 1999 (IN THOUSANDS, EXCEPT PER SHARE DATA)

	HISTORICAL INTERFACE SYSTEMS, INC.	HISTORICAL IGK INDUSTRIES, INC.	PRO FORMA ADJUSTMENTS	PRO FORMA HISTORICAL
Net revenues	$20,169	$2,717	$ --	$17,452
Cost of revenues	7,899	2,400	--	5,499
Gross profit	12,270	317	--	11,953
Product development	3,854	--	--	3,854
Selling, general & administrative	8,683	419	--	8,264
Loss from operations	(267)	(102)	--	(165)
Other income	43	--	26	69
Loss before taxes	(224)	(102)	26	(96)
Income tax provision (credit)	41	(4)	--	45
Loss from continuing operations	$ (265)	$ (98)	$ 26	$ (141)
Basic loss per share	$ (0.06)			$ (0.03)
Weighted average shares outstanding	4,481			4,481

The above pro forma consolidated condensed financial statements include the following pro forma adjustments:

(1) Recognition of twelve months of interest income on the note receivable from the sale.

(2) Removal of the building owned by ISI that was sold in the transaction.

Pro Forma Condensed Combined Financial Information

The selected unaudited pro forma condensed combined financial information for Tumbleweed set forth below gives effect to the acquisition of Interface Systems, Inc. ("Interface"). The historical financial information set forth below has been derived from, and is qualified by reference to, the consolidated financial information of Tumbleweed and Interface and should be read in conjunction with those financial statements and the notes thereto included elsewhere herein. The selected unaudited pro forma condensed combined balance sheet as of March 31, 2000 gives effect to the acquisition of Interface as if it occurred on that date. The selected unaudited pro forma condensed combined statement of operations data for the year ended December 31, 1999 and the three months ended March 31, 2000 give effect to the acquisition as if it occurred on the first day of each of those periods under the purchase method of accounting by combining the results for the year ended December 31, 1999 of Tumbleweed with the results for the year ended September 30, 1999 of Interface, and combining the results for the three months ended March 31, 2000 of Tumbleweed with the same period of Interface. The selected unaudited pro forma condensed combined financial information reflects certain adjustments, including adjustments to reflect the amortization of goodwill resulting from the acquisition. The unaudited pro forma condensed combined statement of operations for the year ended December 31, 1999 reflects the elimination of the results of operations of Interface's non-L2i businesses from October 1, 1998 to September 30, 1999 and from January 1, 2000 to March 31, 2000. The unaudited pro forma condensed combined statements of operations and balance sheet do not include the financial results and accounting for the Company's additional investment in Tumbleweed KK because the additional investment and Tumbleweed's resulting change to consolidation accounting were not deemed significant. The information set forth below should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes of Tumbleweed and Interface included elsewhere in this prospectus. The pro forma condensed combined financial information does not purport to represent what the consolidated results of operations or financial condition of Tumbleweed would actually have been if the Interface acquisition had in fact occurred on such dates or the future consolidated results of operations or financial condition of Tumbleweed.

Tumbleweed Communications Corp. and Subsidiaries

Pro Forma Condensed Combined Balance Sheet

March 31, 2000

(In Thousands)

	TUMBLEWEED	INTERFACE SYSTEMS	NON-L2I BUSINESSES	PRO FORMA L2I	PRO FORMA ADUSTMENTS	PRO FORMA
			ASSETS			
CURRENT ASSETS:						
Cash	$ 46,447	$ 931	$ (102)	$ 829	$ --	$ 47,276
Accounts Receivable	4,980	2,656	(979)	1,677	--	6,657
Other Current Assets	3,134	1,109	(585)	524	--	3,658
TOTAL CURRENT ASSETS	54,561	4,696	(1,666)	3,030	--	57,591
NET PROPERTY & EQUIPMENT	5,001	2,407	(166)	2,241	1,400	8,642
GOODWILL AND INTANGIBLES	--	696	(696)	--	61,536	61,536
OTHER ASSETS	3,014	33	(1)	32	--	3,046
NET ASSETS HELD FOR DISPOSAL	--	--	1,863	1,863	(1,250)	613
TOTAL ASSETS	$ 62,576	$ 7,832	$ (666)	$ 7,166	$ 61,686	$131,428
			LIABILITIES & EQUITY			
CURRENT LIABILITIES:						
Notes Payable	$ 594	$ 50	$ --	$ 50	$ --	$ 644
Accounts Payable	5,514	878	(214)	664	--	6,178
Accrued Liabilities	6,822	1,133	(474)	659	--	7,481
Deferred Revenue	2,639	471	--	471	(471)	2,639
TOTAL CURRENT LIABILITIES	15,569	2,532	(688)	1,844	(471)	16,942
LONG TERM DEBT:						--
Long Term Debt	858	46	--	46	--	904
Other Long term Liabilities	266	--	--	--	--	266
TOTAL LONG TERM DEBT	1,124	46	--	46	--	1,170
TOTAL LIABILITIES	16,693	2,578	(688)	1,890	(471)	18,112
SHAREHOLDERS' EQUITY						--

Par Value	26	11,800	--	11,800	(11,799)
27					
Additional Paid-in Capital	134,764	--	--	--	71,687
206,451					
Deferred Compensation Expense	(5,105)	--	--	--	(2,255)
(7,360)					
Translation Gain (Loss)	70	(56)	22	(34)	34
70					
Retained Earnings (Deficit)	(83,872)	(6,490)	--	(6,490)	4,490
(85,872)					
TOTAL STOCKHOLDERS' EQUITY	45,883	5,254	22	5,276	62,157
113,316					
TOTAL LIABILITIES & STOCKHOLDERS' EQUITY	$ 62,576	$ 7,832	$ (666)	$ 7,166	$ 61,686
$131,428					

Tumbleweed Communications Corp. and Subsidiaries

Pro Forma Condensed Combined Statement of Operations

Year Ended December 31, 1999

(In Thousands, Except Per Share Data)

	TUMBLEWEED YEAR ENDED DECEMBER 31, 1999	INTERFACE SYSTEMS YEAR ENDED SEPTEMBER 30, 1999	NON-L2I BUSINESSES YEAR ENDED SEPTEMBER 30, 1999	PRO FORMA L2I	PRO FORMA ADUSTMENTS	PRO FORMA
License Fees	$ 11,285	$12,647	$ 9,849	$ 2,798	$ --	$ 14,083
Transaction Fees	981	--	--	--	--	981
Services and Support Fees	3,018	1,992	1,623	369	--	3,387
Other	1,472	5,530	5,345	185	--	1,657
NET REVENUE	16,756	20,169	16,817	3,352	--	20,108
License	737	3,129	3,066	63	--	800
Transaction	78	--	--	--	--	78
Services	4,088	733	436	297	--	4,385
Other	--	4,037	3,877	160	--	160
COST OF REVENUES	4,903	7,899	7,379	520	--	5,423
GROSS PROFIT	11,853	12,270	9,438	2,832	--	14,685
OPERATING EXPENSES:						
Research and Development	8,923	3,855	2,312	1,543	--	

10,466						
Sales and Marketing.....	19,917	5,392	1,893	3,499	--	
23,416						
General & Administrative.....	5,524	3,290	671	2,619	21	
8,164						
Stock Compensation.....	3,536	--	--	--	1,127	
4,663						
Acquired in-process research and development.....	--	--	--	--	2,000	
2,000						
Goodwill and other intangibles amortization.....	--	--	--	--	22,702	
22,702						
TOTAL OPERATING EXPENSES.....	37,900	12,537	4,876	7,661	25,850	
71,411						
OPERATING PROFIT (LOSS).....	(26,047)	(267)	4,562	(4,829)	(25,850)	
(56,726)						
OTHER INCOME, NET.....	2,126	2	--	2	--	
2,128						
LOSS BEFORE PROVISION FOR INCOME TAXES.....	(23,921)	(265)	4,562	(4,827)	(25,850)	
(54,598)						
Income Tax Expense.....	301	--	--	--	--	
301						
NET INCOME (LOSS) AFTER TAX.....	$(24,222)	$ (265)	$ 4,562	$(4,827)	$(25,850)	
$(54,899)						
Net loss per share--basic and diluted.....	$ (1.65)					
$ (3.45)						
Shares used in computing net loss per share--basic and diluted.....	14,650					
15,896						

See accompanying notes to selected unaudited pro forma condensed combined financial information.

Tumbleweed Communications Corp. and Subsidiaries

Pro Forma Condensed Combined Statement of Operations

Three Months Ended March 31, 2000

(In Thousands, Except Per Share Data)

	TUMBLEWEED	INTERFACE SYSTEMS	NON-L2I BUSINESSES	PRO FORMA L2I	PRO FORMA ADUSTMENTS	PRO FORMA
License Fees.....	$ 4,356	$ 1,957	$1,181	$ 776	$ --	$ 5,132
Transaction Fees.....	730	11	--	11	--	741
Services and Support Fees.....	1,524	453	151	302	--	1,826
Other.....	--	554	322	232	--	

232						
NET REVENUE.....	6,610	2,975	1,654	1,321	--	
7,931						
License.....	267	318	318	--	--	
267						
Transaction.....	40	--	--	--	--	
40						
Services.....	1,941	281	--	281	--	
2,222						
Other.....	--	274	274	--	--	
--						
COST OF REVENUES.....	2,248	873	592	281	--	
2,529						
GROSS PROFIT.....	4,362	2,102	1,062	1,040	--	
5,402						
OPERATING EXPENSES:.....						
Research and Development.....	2,843	752	84	668	--	
3,511						
Sales and Marketing.....	7,192	1,448	157	1,291	--	
8,483						
General & Administrative.....	1,640	1,590	279	1,311	5	
2,956						
Stock Compensation.....	1,074	--	--	--	282	
1,356						
Acquired in-process research and development.....	--	--	--	--	2,000	
2,000						
Goodwill and other intangibles amortization.....	--	--	--	--	5,676	
5,676						
Merger related expenses.....	10,803	--	--	--	--	
10,803						
TOTAL OPERATING EXPENSES.....	23,552	3,790	520	3,270	7,963	
34,785						
OPERATING PROFIT (LOSS).....	(19,190)	(1,688)	543	(2,230)	(7,963)	
(29,383)						
OTHER INCOME, NET.....	656	12	--	12	--	
668						
INCOME (LOSS) BEFORE PROVISION FOR INCOME TAXES.....	(18,534)	(1,676)	543	(2,218)	(7,963)	
(28,715)						
Income Tax Expense.....	88	--	--	--	--	
88						
NET INCOME (LOSS) AFTER TAX.....	$(18,622)	$(1,676)	$ 543	$(2,218)	$(7,963)	
$(28,803)						
Net loss per share--basic and diluted.....	$ (0.73)					$
(1.07)						

Shares used in computing net loss per share--basic and diluted.... 25,588 26,834 See accompanying notes to selected unaudited pro forma condensed combined financial information.

Notes to Pro Forma Condensed Combined Financial Information

The Company entered into an agreement on June 28, 2000 to purchase the common stock and assume stock options and warrants of Interface Systems, Inc. in a transaction planned to be accounted for under the purchase method of accounting. The preliminary estimate of the total purchase price is approximately $74.7 million consisting of cash surrendered of $3.0 million, approximately 1.25 million shares of the Company's common stock (with a fair value of approximately $64.1 million) the assumption of outstanding stock options with a fair value of approximately $4.1 million, and transaction costs of approximately $3.5 million.

The Interface historical financials have been adjusted to reflect the Company's assumed divestiture of Interface's non-L2i operations and product lines assuming such divestitures had occurred as of the beginning of the periods presented. Interface's non-L2i net assets have been reflected in the pro forma combined balance sheet as net assets held for disposal. Interface's non-L2i operations are reflected in the pro forma combined statements of operations using the following allocation guidelines:

- Revenues and expenses directly attributable to non-L2i operations and products;

- For centralized functions that served all of Interface's operations, costs were allocated to non-L2i operations and products based on headcount and certain activity measures; and - For corporate level activities, all costs were allocated to L2i operations.

Pro forma adjustments for the unaudited pro forma condensed combined balance sheet as of March 31, 2000 and statements of operations for the year ended December 31, 1999 and the three months ended March 31, 2000 are as follows:

1. To reflect the preliminary allocation of the estimated purchase price.

The total estimated purchase price for the acquisition has been allocated on a preliminary basis to assets and liabilities based on management's best estimates of their fair value with the excess costs over the net assets acquired allocated to goodwill. The preliminary allocation has resulted in unearned stock compensation of approximately $2.3 million, purchased in-process research and development estimated to be $2.0 million, and estimated goodwill and identified intangible assets of $61.6 million which are being amortized over periods ranging from one to three years. The net assets held for disposal have been adjusted to their estimated net realizable value. This allocation is subject to change pending a final analysis of the value of the assets acquired and liabilities assumed.

2. To reflect amortization of goodwill and other intangible assets resulting from the acquisition.

3. To reflect the acquisition of all of the outstanding stock of Interface.

4. Basic and diluted net loss per share has been adjusted to reflect the issuance of approximately 1.25 million shares of the Company's common stock as if these shares had been outstanding for the entire period. Dilutive options and warrants are excluded from the computation as their effect is antidilutive.

[Logo]

Part Ii

Information Not Required in Prospectus

Item 13. Other Expenses of Issuance and Distribution.

The following table indicates the expenses to be incurred in connection with the offering described in this Registration Statement, all of which will be paid by Tumbleweed. All amounts are estimates, other than the registration fee, the NASD fee, and the Nasdaq National Market listing fee.

SEC Registration fee	$ 48,045
NASD Filing fee	$ 18,699
Nasdaq National Market listing fee	*
Accounting fees and expenses	*
Legal fees and expenses	*
Printing and engraving expenses	*
Transfer agent fees and expenses	*
Blue sky fees and expenses	*
Miscellaneous fees and expenses	*
Total	$1,000,000

* To be completed by amendment.

Item 14. Indemnification of Directors and Officers.

Section 102 of the Delaware General Corporation Law, or the DGCL, as amended, allows a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the DGCL provides, among other things, that we may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an action by or in the right of Tumbleweed) by reason of the fact that the person is or was a director, officer, agent or employee of Tumbleweed or is or was serving at our request as a director, officer, agent, or employee of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys' fees, judgment, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with the action, suit or proceeding. The power to indemnify applies (a) if the person is successful on the merits or otherwise in defense of any action, suit or proceeding, or (b) if the person acted in good faith and in a manner he reasonably believed to be in the best interest, or not opposed to the best interest, of Tumbleweed, and

with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful. The power to indemnify applies to actions brought by or in the right of Tumbleweed as well, but only to the extent of defense expenses (including attorneys' fees but excluding amounts paid in settlement) actually and reasonably incurred and not to any satisfaction of judgment or settlement of the claim itself, and with the further limitation that in these actions no indemnification shall be made in the event of any adjudication of negligence or misconduct in the performance of his duties to Tumbleweed, unless the court believes that in light of all the circumstances indemnification should apply.

Section 174 of the DGCL provides, among other things, that a director, who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption, may be held liable for these actions. A director who was either absent when the unlawful actions were approved or dissented at the time, may avoid liability by causing his or her dissent to these actions to be entered in the books containing the minutes of the meetings of the board of directors at the time the action occurred or immediately after the absent director receives notice of the unlawful acts.

Our Amended and Restated Certificate of Incorporation includes a provision that eliminates the personal liability of its directors for monetary damages for breach of fiduciary duty as a director, except for liability:

- for any breach of the director's duty of loyalty to Tumbleweed or its stockholders;

- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;

- under the section 174 of the Delaware General Corporation Law regarding unlawful dividends and stock purchases; or - for any transaction from which the director derived an improper personal benefit.

These provisions are permitted under Delaware law.

Our Amended and Restated Bylaws provide that:

- we must indemnify our directors and officers to the fullest extent permitted by Delaware law;

- we must indemnify our other employees and agents to the same extent that we indemnified our officers and directors, unless otherwise determined by our board of directors; and - we must advance expenses, as incurred, to our directors and executive officers in connection with a legal proceeding to the fullest extent permitted by Delaware Law.

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

We have entered or intend to enter into agreements to indemnify our directors and executive officers, in addition to indemnification provided for in our bylaws. These agreements, among other things, will provide for indemnification of our directors and executive officers for expenses, judgments, fines and settlement amounts incurred by any such person in any action or proceeding arising out of the person's services as a director or executive officer or at our request. We believe that these provisions and agreements are necessary to attract and retain qualified persons as directors and executive officers.

Item 15. Recent Sales of Unregistered Securities.

During the past three years, the Registrant has issued unregistered securities to a limited number of persons as described below:

(a) On August 28, 1996, September 30, 1996 and October 29, 1997, Registrant issued and sold an aggregate of 2,657,971 shares of Series A preferred stock to 18 investors for $1.38 per share, or an aggregate of $3,667,999.98. Upon the closing of this offering, each share of Series A preferred stock will automatically convert into one share of common stock. The foregoing purchases and sales were exempt from registration under the Securities Act pursuant to Section 4(2) thereof on the basis that the transactions did not involve a public offering.

(b) On August 21, 1997 and September 4, 1997, Registrant issued and sold an aggregate of 4,065,960 shares of Series B preferred stock to 13 investors for $1.98 per share, or an aggregate of $8,074,996.56. Upon the closing of this offering, each share of Series B preferred stock will automatically convert into one share of common stock. The foregoing purchases and sales were exempt from registration under the Securities Act pursuant to Section 4(2) thereof and Regulation D promulgated thereunder on the basis that the transactions did not involve a public offering.

(c) On December 19, 1997, Registrant issued a warrant to Dynalab Technology to purchase 40,000 shares of Series B preferred stock for $2.50 per share. Upon the closing of this offering this warrant will be automatically terminated unless otherwise exercised. The issuance of this warrant was exempt from registration under the Securities Act pursuant to Section 4(2) thereof on the basis that the transaction did not involve a public offering.

(d) On November 30, 1998, Registrant issued a warrant to Silicon Valley Bank to purchase 20,973 shares of Series C preferred stock for $3.576 per share. The issuance of this warrant was exempt from registration under the Securities Act pursuant to Section 4(2) thereof on the basis that the transaction did not involve a public offering.

(e) On February 11, 1999, Registrant issued 15,000 shares of Series B preferred stock to a consultant of Registrant for services rendered valued at $29,790. Upon the closing of this offering, these shares of Series B preferred stock will automatically convert into 15,000 shares of common stock. The foregoing purchase and sale was exempt from registration under the Securities Act pursuant to Section 4(2) thereof on the basis that the transaction did not involve a public offering.

(f) On February 26, 1999 and May 13, 1999, Registrant issued and sold an aggregate of 5,592,503 shares of Series C preferred stock to a total of 14 investors for $3.576 per share, or an aggregate of $19,975,546.73. Upon the closing of this offering, each share of Series C preferred stock will automatically convert into one share of common stock. The foregoing purchases and sales were exempt from registration under the Securities Act pursuant to Section 4(2) thereof and Regulation D promulgated thereunder on the basis that the transactions did not involve a public offering.

(g) On March 24, 1999, Registrant issued 6,500 shares of Series C preferred stock to a consultant of Registrant for services rendered valued at $23,244. Upon the closing of this offering, these shares of Series C preferred stock will automatically convert into 6,500 shares of common stock. The foregoing purchase and sale was exempt from registration under the Securities Act pursuant to Section 4(2) thereof on the basis that the transaction did not involve a public offering.

(h) On May 13, 1999, Registrant issued a warrant to Hambrecht & Quist LLC to purchase 75,503 shares of Series C preferred stock for $3.576 per share. Upon the closing of this offering this warrant will be automatically terminated unless otherwise exercised. The issuance of this warrant was exempt from registration under the Securities Act pursuant to Section 4(2) thereof on the basis that the transaction did not involve a public offering.

(i) On July 30, 1999, Registrant issued a warrant to American Express Travel Related Services, Inc. to purchase up to 100,000 shares of common stock for a weighted average exercise price of $27.50 per share. The issuance of this warrant was exempt from registration under the Securities Act pursuant to Section 4(2) thereof on the basis that the transaction did not involve a public offering.

(j) As of August 3, 1999, an aggregate of 886,372 shares of common stock had been issued upon exercise of options under the Registrant's 1993 stock option plan at a weighted average exercise price of $0.47 per share, or an aggregate of $418,186. The foregoing purchases and sales were exempt from registration under the Securities Act pursuant to Section 4(2) thereof or Rule 710 promulgated thereunder.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering, except that Hambrecht & Quist LLC acted as placement agent in connection with the transaction described in paragraph (f) above. The recipients in such transactions represented their intention to acquire the securities for investment only and not with a view to or for sale in connection with any distribution, and appropriate legends were affixed to the share certificates and instruments issued in those transactions.

Item 16. Exhibits and Financial Statement Schedules.

a. EXHIBITS

Exhibit Description

1.1* Form of Underwriting Agreement 2.1(3) Agreement and Plan of Merger, dated as of November 18, 1999, among Tumbleweed Communications Corp., Keyhole Acquisition Corp. and Worldtalk Communications Corporation.

2.2(7) Agreement and Plan of Merger, dated as of June 28, 2000, among Tumbleweed Communications Corp., Maize Acquisition Sub, Inc. and Interface Systems, Inc.

3.1(1) Amended and Restated Articles of Incorporation of the Registrant 3.2(1) Amended and Restated Bylaws of the Registrant 4.1(1) Specimen common stock certificate 4.2(6) Amended and Restated Investor's Rights Agreement, dated as of January 31, 2000 4.3(1) Warrant to Purchase Stock, dated November 30, 1998, issued to Silicon Valley Bank 5.1* Opinion of Skadden, Arps, Slate, Meagher & Flom LLP 10.1(5) Form of Indemnity Agreement between the Registrant and each of its directors and officers 10.2(1) 1993 Stock Option Plan, as amended, and form of agreements thereunder 10.3(1) Form of 1999 Omnibus Stock Incentive Plan and form of stock option thereunder 10.4 1999 Omnibus Stock Incentive Plan, as Amended 10.5(1) Form of 1999 Employee Stock Purchase Plan 10.6 2000 NSO Incentive Stock Plan 10.7(1)+ Software License, Development and Services Agreement, dated December 19, 1997, between the Registrant and United Parcel Service General Services, Co.

10.8(1)+ Posta License and Distribution Agreement, dated as of March 31, 1999, between Tumbleweed Software, K.K. and K.K. Hikari Tsushin.

10.9(1)+ OEM Object Code License Agreement, dated as of March 30, 1998, between the Registrant and RSA Data Security, Inc.

10.10(1) Employment Agreement, dated May 24, 1999, between Tumbleweed Software Inc. and Tumbleweed Limited and Donald N. Taylor 10.11(4) Investment Agreement, dated August 12, 1999, between Hikari Tsushin and Tumbleweed Communications Corp.

Exhibit Description

10.12(4) Standstill Agreement, dated August 27, 1999, between Hikari Tsushin and Tumbleweed Communications Corp.

21.1 Subsidiaries of the Registrant 23.1 Consent of KPMG LLP 23.2 Consent of Arthur Andersen, LLP 23.3* Consent of Skadden, Arps, Slate, Meagher & Flom LLP (included in Exhibit 5.1) 24.1 Power of Attorney (included on signature page) 27.1 Financial Data Schedule (1) Previously filed in Tumbleweed's Registration Statement on Form S-1 (File No. 79687), as amended and incorporated herein by reference.

(2) Subject to Confidential Treatment Order.

(3) Previously filed in Tumbleweed's Current Report on Form 8-K, filed November 26, 1999, and incorporated herein by reference.

(4) Previously filed in Tumbleweed's Quarterly Report on Form 10-Q, filed November 15, 1999, and incorporated herein by reference.

(5) Previously filed in Tumbleweed's Registration Statement on Form S-4, filed December 10, 1999 (File No. 333-92589), as amended and incorporated herein by reference.

(6) Previously filed in Tumbleweed's Registration Statement on Form S-8, filed February 23, 2000 (File No. 333-84683), and incorporated herein by reference.

(7) Previously filed in Tumbleweed's Current Report on Form 8-K, filed July 6, 2000, and incorporated herein by reference.

+ We sought confidential treatment from the Securities and Exchange Commission for selected portions of this exhibit. The omitted portions were separately filed with the Securities and Exchange Commission.

* To be filed by amendment.

b. FINANCIAL STATEMENT SCHEDULE Report on Financial Statement Schedule Schedule II--Valuation and Qualifying Accounts

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the Underwriters at the closing certificates in the denominations and registered in the names as required by the Underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers, and controlling persons of the registrant pursuant to the provisions described in Item 14, or otherwise, the registrant has been informed that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. In the event that a claim for indemnification by the registrant against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer, or controlling person of the registrant in the successful defense of any action, suit, or proceeding) is asserted by such director, officer, or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the maser has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against pubic policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant under Rule 424(b) (1) or (4) or 497 (h) under

the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bonafide offering thereof.

Signatures

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Redwood City, State of California, on July 11, 2000.

Tumbleweed Communications Corp.

By: /s/ JOSEPH C. CONSUL Joseph C. Consul VICE PRESIDENT--FINANCE AND CHIEF FINANCIAL OFFICER Each person whose signature appears below hereby constitutes and appoints Jeffrey C. Smith and Joseph C. Consul, and each of them, his true and lawful attorneys-in-fact and agents with full power of substitution and resubstitution, for him and in his name, place, and stead, in any and all capacities, to sign any and all (i) amendments (including post-effective amendments) and addition to this Registration Statement and relating to the offering contemplated pursuant to Rule 462(b) under the Securities act of 1933, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and hereby grants to such attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or his substitute or substitutes may lawfully do or cause to be done by virtue hereof.

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

/s/ JEFFREY C. SMITH Jeffrey C. Smith	Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer	July 11, 2000
/s/ JOSEPH C. CONSUL Joseph C. Consul	Vice President--Finance and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	July 11, 2000

/s/ DAVID F. MARQUARDT ---------- Director July 11, 2000 David F. Marquardt /s/ TIMOTHY C. DRAPER ---------- Director July 11, 2000 Timothy C. Draper /s/ STANDISH H. O'GRADY ---------- Director July 11, 2000 Standish H. O'Grady /s/

ERIC J. HAUTEMONT ---------- Director July 11, 2000 Eric J. Hautemont /s/
KENNETH R. KLEIN ---------- Director July 11, 2000 Kenneth R. Klein /s/
PEHONG CHEN ---------- Director July 11, 2000 Pehong Chen

Independent Auditors' Report on Financial Statement Schedule

The Board of Directors Tumbleweed Communications Corp.:

Under the date of January 17, 2000, we reported on the consolidated balance sheets of Tumbleweed Communications Corp. as of December 31, 1999 and 1998, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 1999, which are included in the registration statement. In connection with our audits of the aforementioned financial statements, we also audited the accompanying financial statement schedule. The financial statement schedule is the responsibility of the Company's management. Our responsibility is to express a opinion on this financial statement schedule based on our audit.

In our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ KPMG LLP

San Francisco, California January 17, 2000 TUMBLEWEED COMMUNICATIONS CORP. AND SUBSIDIARIES SCHEDULE II--VALUATION AND QUALIFYING ACCOUNTS

DESCRIPTION	BALANCE AT BEGINNING OF PERIOD	ADDITIONS CHARGED TO EXPENSE	DEDUCTIONS: WRITE-OFFS OF ACCOUNTS	BALANCE AT END OF PERIOD
		(IN THOUSANDS)		
Year ended December 31, 1997:				
Allowance for bad debt	$ 149	$ 41	$ (69)	$ 121
Year ended December 31, 1998:				
Allowance for bad debt	$ 121	$1,720	$ (1)	$1,840
Year ended December 31, 1999:				
Allowance for bad debt	$1,840	$ 215	$(1,239)	$ 816

Exhibit Index

Exhibit Description

1.1*	Form of Underwriting Agreement
10.4	1999 Omnibus Stock Incentive Plan, as Amended
10.6	2000 NSO Incentive Stock Plan
21.1	Subsidiaries of the Registrant
23.1	Consent of KPMG LLP
23.2	Consent of Arthur Andersen, LLP

23.3*	Consent of Skadden, Arps, Slate, Meagher & Flom LLP (included in Exhibit 5.1)
24.1	Power of Attorney (included on signature page)
27.1	Financial Data Schedule

* To be filed by amendment. </TEXT>