

VOCALTEC COMMUNICATIONS INC. (NASDAQ: VOCL)**Initiating Coverage: ACCUMULATE**

September 24, 1999

EXECUTIVE SUMMARY

We believe that in the future IP telephony will be the dominant technology used for the transmission of voice, video and data, and that the transition from the circuit switch legacy systems to IP telephony will be slow and gradual.

Vocaltec is a pioneer in the IP telephony industry and has been a leader in setting up its standards. It has a large R&D group committed to voice over IP and it is now committed to open international standards. VocalTec has a good portfolio of strategic alliances in different areas with leading companies such as Deutsche Telecom, ITXC and Cisco. It is currently restructuring by narrowing down its focus, hiring managers with more experience and expanding its R&D and Sales and Marketing alliances.

VocalTec now faces increasing competition in a sector characterized with rapidly changing technology such that leadership is unstable. VocalTec's larger competitors have more resources to compete and to acquire complementary technologies. We believe that VocalTec should leverage on its brand and experience to get into alliances with giant Telcos and Technology companies to compensate for its relatively limited resources and become more competitive.

We believe that the recent strategic reorganization of the company will be effective. The stock of the company has been consolidating for months near the \$11 level and we expect it to show some improvement in the long term once the effects of the recent reorganization, revenue figures more in line with estimates and more alliances with global players, will be announced.

Current Price	\$12.19
52WK High	\$17.25
52WK Low	\$5.56
P/E	N.A.
P/Sales	5.3
Market Capitalization	139.7M
Shares Outstanding	11.4M
Float	5.80M
Daily Volume (3-month Average)	0.14M
Beta	0.80
Cash & S.T. Investments	20.6M

Year	EPS
1996A	\$-0.86
1997A	\$-0.89
1998A	\$-2.08
1999E	\$-2.42
2000E	\$-1.50

Financials	
Current Ratio	3.5
Total Debt to Equity	4.73
LT Debt	0.00

ONE YEAR PRICE AND VOLUME GRAPH

Courtesy of BigCharts.com

COMPANY PROFILE

VocalTec (www.vocaltec.com) develops and markets end-to-end communications solutions for global carriers, service providers, corporations and individuals. The company develops and markets software that enables multi-point audio, video and collaborative communications, and seamlessly integrates the traditional telephone network, PCs, the Internet and corporate intranets. VocalTec is recognized as the founder of the voice-over-the-Internet market, and also for its ongoing technical innovations and leadership in setting industry standards.

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VocalTec pioneered the Internet telephony market with the introduction of Internet Phone® in 1995. For the first time, anyone who owned a multimedia PC could make or receive a call from a computer anywhere in the world with no long distance charges. Since then, VocalTec Communications has added several more services. VocalTec launched the VocalTec Telephony gateway in 1996, VocalTec gatekeeper and network manager in 1998, VocalTec ensemble architecture in 1998.

WHAT is IP TELEPHONY?

Internet Protocol (IP) telephony involves the transmission of voice, video and data over the Internet and is an alternative to the traditional telephone network which has not changed substantially for decades. Because of an increasing global demand for communication services as an elementary work tool, the current PSTN (Public Switched Telephone Network) technology must face a paradigm shift in order to successfully fulfill those needs. IP telephony technology offers numerous advantages over the legacy systems while keeping an open door to a vast spectrum of possibilities in creating new intelligent network services, which cannot be obtained by the traditional PSTN technology. IP telephony is the key for increasing telecommunication scalability, performance, intelligent abilities and further reduction of costs. It is a key technology in the future of telecommunications.

GLOSSARY

Gatekeeper	An intelligent hub for centralized addressing, security, accounting and intelligent network functionality for global IP Telephony services.
Gateway	A bridge which links the traditional telephone network and the Internet/Intranet to enable unlimited long-distance calling and faxing.
Interoperability	The ability of a single piece of software to operate on two different machine platforms showing users an identical interface and performing the same tasks.
Internet Telephony Service Provider (ITSP)	ITSPs are a new breed of telco that use gateways to bridge the Internet to the traditional telephone network.
Public Switched Telephone Network (PSTN)	The traditional telephone network used by long-distance carriers.
Scalability	The capacity of a network system to meet demand.

PRODUCTS

- **VocalTec Ensemble Architecture™** is the first IP Telephony platform to support advanced industry standards for scalable, centrally managed, secure and reliable IP Telephony services. It is able to route the traffic between thousands of gateways and servers and millions of end-user devices all over the world for both the corporate and carrier markets. It consists of VocalTec Gatekeeper™ and VocalTec Network Manager™.
- **VocalTec Gatekeeper™** is an intelligent hub designed for Windows NT for centralized addressing, security, accounting and intelligent network functionality for global IP Telephony services.
- **VocalTec Network Manager™** is the graphical network management tool for IP Telephony networks that provides network administrators with an operations, administration, management, and provisioning tool capable of managing a large-scale, distributed IP telephony network.
- **VocalTec Telephony Gateway™** is a bridge which links the traditional telephone network and the Internet/Intranet to enable unlimited long-distance calling and faxing. It allows users to connect over the Internet or Intranet from telephone-to-telephone, PC-to-telephone, telephone-to-PC, fax-to-fax, Web browser to telephone.

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- **VocalTec Internet Phone®** is an Internet phone technology, which allows online user to make free PC-to-PC audio and video calls over the Internet as well as low cost PC-to-Phone calls. PC users can call regular phones over the Internet by signing up for service with one of VocalTec's Internet Telephony Service Providers. Internet Phone V users can easily choose an ITSP and sign up for service through the Internet Phone software.
 - **VocalTec Surf&Call™** is a software package that enables calls from a web browser to a regular phone.
 - **Internet Phone Lite™** is a software application for PC-to-phone calling designed to help carriers and service providers introduce enhanced IP telephony services. VocalTec is offering the product for free or low cost distribution by carriers and service providers to their customers. Internet Phone Lite features a telephone keypad that can be easily customized to accommodate a carrier's or service provider's name, logo, promotional message and more.
 - **VocalTec® PASSaFAX™** is a real-time Internet Faxing Tool for multi-site corporations and service providers.

REVENUE SOURCES/BUYERS OF VocalTec PRODUCTS

- **Mainstream carriers.** Telecommunication companies that are at different stages of IP Telephony deployment, ranging from pilots to fully established end-to-end IP Telephony solutions through VocalTec technology. VocalTec provides a global coverage to virtually any telecommunication carrier around the globe such as Talia Light of Sweden and Japan Telecom of Japan.
- **Internet Telephony Service Providers (ITSP).** A new breed of entrepreneurial service providers which basically create IP Telephony backbones in certain areas which enable them to offer low cost communication services in those areas.
- **Enterprises and Corporations.** In addition to the cost benefits involved in deployed IP Telephony vs. traditional circuit switch, IP Telephony benefits corporations' communication needs by its ability to converge two separate networks (voice and data) into one. This makes possible intelligent and advanced services as well as savings associated with converged networks. VocalTec is not marketing its products to this sector but the company's large service providers customers might in the future use VocalTec's gear to cover this sector.
- **Consumer Products.** An updated version of the well-known Internet Phone, which is a software that allows consumers to conduct calls over the Internet basically for free.

There is currently increased market segmentation in the industry between low cost telephony services and enhanced IP communication services. VocalTec has a proven end-to-end platform addressing both these markets. VocalTec's recent revenues reflect the segmentation of the market with nearly an even split between low cost calling and enhanced services business. The low-cost calling and arbitrage market has moved into the deployment stage and is growing steadily. In the enhanced services market, most carriers are in the pilot phase. However, some of the early adopters already are moving ahead with commercial service offerings.

STRATEGY AND RISKS OVERVIEW

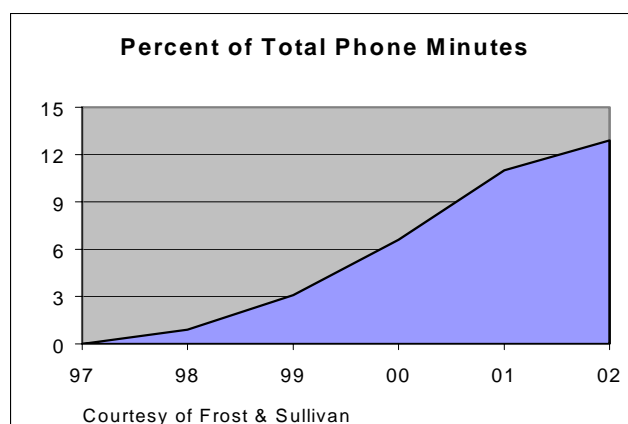
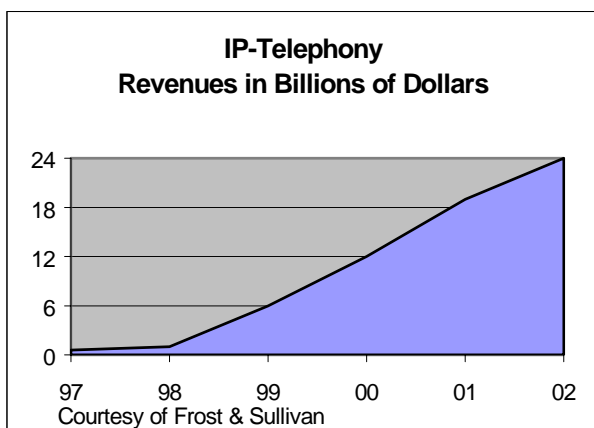
IP communications will be the meeting point for the convergence of data with telephone networks. VocalTec is a well-positioned IP Telephony company and is one of the leading candidates in the industry. We believe that it has defined a good strategy to compete and also the risk factors that it will face. VocalTec's strategy consist of pursuing strategic (R&D and Sales and Marketing) alliances such as those with Deutsche Telecom and Cisco, developing industry standards, developing solutions appropriate to each market segments and to aim at providing complete end-to-end IP-Telephony solutions. We believe that Vocaltec has strengthened its position in the industry with the launch of VocalTec Ensemble Architecture, which combines all the elements required to construct the infrastructure for global IP telephony networks and enterprise deployment-scalability, manageability, reliability, and security. Furthermore, its adoption of open standards should help it in its pursuit of strategic alliances with larger key players. However, the company faces significant risk factors (1) the intense competition that is emerging with the increasing interest of large telcos and technology companies in developing and sometimes spinning off their IP-telephony divisions (2) the timely product development and introduction and (3) government regulations and legal uncertainties.

In the first half of 1999, VocalTec pursued a restructuring policy and has made several strategic decisions based on an ongoing review of its operations. The Company decided to concentrate and intensify its focus on the service provider market, focusing on specific applications where it is already well positioned. Also, instead of selling directly to enterprise customers, VocalTec is seeking to form a separate entity with a strategic partner or divest its enterprise-oriented operation based in the United Kingdom. The Company is continuing to pursue various opportunities in its approach to the consumer Internet telephony market.

The initiative also includes a number of organizational changes to enhance operational efficiency as well as a reduction in worldwide headcount by approximately 40 people. We believe that this restructuring will help the company achieve its goal of gaining market share in the niches where it is deciding to focus.

INDUSTRY

For more than a century, telephone companies have used circuit switches to route telephone calls. In the old days, they were building-size electromechanical machines. The modern versions are closet-size computers. But the principle has remained the same: Switches establish a dedicated communications circuit for each call. By contrast, the Internet/IP-telephony uses an entirely different design known as packet-switching, in which a stream of information is broken into discreet, individually addressed chunks that are sent across a network and reassembled at the other end. This is an extremely efficient way to move data, but has only recently become practical for voice communications. We believe that the inevitable transition from circuit switch technology to IP-telephony will be slower and more gradual than the Frost & Sullivan estimates shown in the charts below suggest.



Nevertheless, the emerging IP Telephony industry has been defining new rules in the well-established Telecommunication and Data Networking Industries. VocalTec was the first to introduce the popular IP Telephony product – the Internet Phone in 1995. It was a consumer product that used a desktop computer, an earphone and a sound card to bypass long distance call charges by sending voice packets, digitized by the user PC and transmitted over the Internet to virtually any location around the globe with the same software. Although this product and others that followed had a relatively poor quality of voice and reliable connection, they laid down the ground for much more advanced and practical products and services.

Gateways were the next stage in 1996, establishing a bridge between local PSTN and the Internet. The gateways constitute the core of the industry by converting circuit-switched voice and data into packet-switched voice and data for their transmission over the Internet. The primary customers of gateways are service providers that target to offer enhanced services, and enterprises that try to enjoy the low-cost benefits associated with the VoIP technology. As a pioneer gateway vendor, VocalTec once again, was able to come out with a significant development which was followed by many other companies whom understood the potential of the Industry. Gateways enable establishing calls by simply using phones without the need of PCs, at both ends of the line.

As quality of voice and reliability were improving rapidly (QoS- Quality of Service), and the ability to have a large number of calls over one line was increasing, a new window of business opportunities was opened to Long Distance call providers who used IP Telephony as the means of transmitting calls. That whole new category in Telecommunication is called ITSP (Internet Telephony Service Provider). The basic principle is that by routing calls over the Internet, which is virtually free, instead of using costly circuit switching wholesale lines, the ITSP can offer lower cost and better quality long distance and international calls without any tariffs like those of traditional providers (AT&T, MCI etc.). The ITSPs also enjoy higher margins as a result of the lower costs evolved in using the Internet network.

VocalTec introduced the first Gatekeepers for global service in 1998 to facilitate the development of ITSP networks or large-scale service providers. Gatekeepers provide intelligence to the IP network, allowing various applications such as dialing plans, prepaid or postpaid calling cards, interface with third party vendor billing systems, etc.

It should be noted that another important market for IP telephony is the corporate clients and small businesses sector. VocalTec is not currently focusing on this sector. The traditional communication systems that the majority of corporations currently employ use different systems. The first, PBX, is for voice communication and handles voice conversations and faxes. The second, LAN/WAN is a data network which could use the Internet to transfer data from different locations of the corporation. IP Telephony incorporates these two networks into one, by transmitting and receiving data and voice packets over the Internet and eliminates many of the costs related to handling the two different networks. Furthermore, the use of that one network enables many intelligent and advanced services, which are not possible in the current traditional networks. These services include work groups access to multimedia applications that integrate voice and enable real time multi-point audio, video, and data conferencing from any corporate site.

Source: The Industry Standard

Year	Millions of Minutes Logged on IP Networks	Millions of Minutes Logged on Circuit Networks
1998	200	5,100,000
1999	813	5,400,000
2000	3,100	5,700,000
2001	6,200	6,000,000
2002	11,200	6,300,000
2003	23,800	6,700,000
2004	48,500	7,000,000
2005	90,400	7,500,000

We believe that the inevitable transition from circuit switch technology to IP-telephony will be slow and gradual as The Industry Standard estimates shown in the table suggest. According to a study by J.P. Morgan, telephone companies are set to spend \$48 billion on circuit switches next year, that is, more than seven times what they will spend on IP gear. However, major telecommunication companies are starting to buy hybrid gear that can do both circuit-switching and packet-switching. Cisco has acquired technology

that will tie its IP products into old-world networks, as evidenced by its recent \$400 million TransMedia acquisition.

So far, voice-over-IP has had success mainly with startups and international carriers. This year an estimated 813 million minutes will be logged on voice-over-IP calls, according to Probe Research, which is relatively small compared to traditional networks that will carry 5.4 trillion minutes. It is interesting to note that voice still accounts for 51% of the traffic on AT&T networks. Private lines, such as T1 and T3 cables, carry 45.3 percent, of which roughly half is also voice traffic. Internet traffic accounts for a mere 1.5 percent of activity on AT&T networks. The rest goes to frame-relay and high-speed data services.

Finally, some predict that IP voice traffic will be so economical that it ought to be free. That's not a popular idea among telcos, who generate as much as 70 percent of their revenue from voice calls and regulators will determine the outcome. But that is why we call the transition from circuit switch technology to IP-telephony inevitable.

COMPETITION

The competition in VocalTec's sector of the IP Telephony industry is increasing as the demand for their products is expected to increase in the future when telcos and cable operators will start to increase their investments in this technology. Traditional phone suppliers like Northern Telecom's Nortel Networks and Motorola are introducing their first Internet products in the field. And, giant start-ups like Level 3 Communications and Qwest Communications International are spending tens of millions of dollars to create IP networks and product offerings similar to those of VocalTec. There is also a trend of telecoms like IDT and large technology companies like Microsoft spinning off their IP telephony divisions, Net2phone and NetMeeting, respectively, to make them more focused and maximize their valuations.

We believe that VocalTec should face the growing competition by leveraging on being a market leader in the IP Telephony industry in terms of state of the art technology, strategic alliances and market recognition. VocalTec is one of the most important pioneering companies in the IP Telephony market. In 1995 it announced the first Internet telephony application, in 1996 the first gateway, and in 1998 the first gatekeeper for global service. It has formed various important strategic alliances during these periods.

Four close competitors of VocalTec are Clarent Corporation, IPVoice.com, NetSpeak Corporation and Vienna Systems Corporation:

Clarent Corp. is a close competitor. It produces the Clarent system, a product that allows service providers and enterprises that manage their own telephony services high quality voice services over the Internet. It began commercial shipment of the Clarent system in March 1997. In 1998, it had sales of \$14.6 million.

IPVoice.com is also a new close competitor. IPVoice.com's premier product, MultiCom(TM), supports two Internet Gateways named "TrueConnect(TM)" and "SuperConnect". For managing these gateways, IPVoice.com has also developed proprietary support products in the areas of order entry; billing, customer service, agent management and a switching network management system.




NetSpeak Corporation, a leading developer and marketer of IP telephony technology over packetized data networks is an important competitor in the industry. It was founded in 1995, and acquired Internet Telephone Company (ITC) that same year. NetSpeak Corporation announced its initial public offering in May 1997 and is traded on NASDAQ under the symbol NSPK.

Vienna Systems Corporation, a company based in Canada, is another provider of IP Telephony Solutions and was founded in 1995. It has offices in Virginia, Maidenhead, UK, and Tokyo, Japan. Nokia acquired Vienna Systems in December 1998 for \$90 million.

Finally, the following developments of Net2Phone clearly show the increasing awareness and demand for IP Telephony services. Unlike the above competitors, Net2Phone is not an IP-software/hardware developer and is not a competitor of VocalTec. It is a leading provider of voice-enhanced Internet communications services to individuals and businesses worldwide. It is a spinoff of international telecommunications firm IDT Corp. and could benefit from working closely with its investors. NBC owner General Electric, America Online and Japanese tech investor SOFTBANK are all Net2Phone investors – and those names are found frequently in Net2Phone's business deals. Net2Phone has marketing pacts with AOL's ICQ messaging service and Netscape's Navigator and Communicator, and a sizable portion of the company's proceeds from its IPO went to prepay NBC for television advertising. In addition, Net2Phone has plenty of other online associations worth noting, including deals with Yahoo!, NBCi/CNET/Snap/Xoom.com, and Excite@Home. These alliances are very important in terms of brand exposure and capital resources. However, they sometimes give rise to conflicts of interest as many of these companies are choosing sides on broader issues like instant messaging and cable network access that could conceivably restrict the options of a company like Net2Phone. Furthermore, Net2phone partnerships with AT&T and Sprint could be conflicting if these companies decide to issue their own IP telephony products.

Net2phone has a very thin float and daytraders exaggeratedly impressed with the outlook of IP telephony and the announcements of its partnerships with leading Internet companies have been trading the stock heavily creating a lot of volatility in the stock. Net2phone currently has a market capitalization of 2.7 Billion and an inflated price-to –sales ratio of 68.

Competitors' Table

			CLARENT CORPORATION	
Recent Price	\$12.19	\$11.6		-
Primary Focus	Develops and markets end-to-end communications solutions for service providers, corporations and individuals. The company's systems are used worldwide for voice, video, data and fax communications over the Internet. Known as the founder of the voice-over-the-Internet market.	The company develops Internet, LAN, and WAN telephony software that enables real-time, concurrent voice, video, and data transmission.	The Clarent system features a modular architecture that permits customers to add new product and service features without extensive product cost or development time. The system consists of three distinct components: (1) the Clarent Gateway, (2) the Clarent Command Center, a proprietary client/server software package, and (3) a relational database, which is supplied by a third party.	Designs and manufactures hardware and software products for the distribution of voice, fax and video communication over IP networks including intranets and the public Internet.
Compatibility with standards	Recognized by its leadership in industry standards. Partnering with Ascend, Cisco and Lucent to develop interoperability based on the H.323 standard.	Supports H.323 standard.	--	Supports H.323 and various T.120 standards.

Market Capitalization	\$ 139.6M	\$150.3M	\$1,900,000M	-
Alliances	Fujitsu Business Systems Ltd., ECI Telecom, Deutsche Telekom, AT&T, ITXC, Motorola Inc., Taiwan Telecommunication Network Services, Telecom New Zealand, Dacom International, Telecom Finland, Dialogic Corporation, MIND CTI Ltd., IBM, Prodigy, CNET, America Online; NextGen Carriers including Delta Three, Access Power, Biztrans, World Interactive Network, and Dot Com Technologies.	Bay Networks, Creative Labs, Fujitsu, Infonet, MCI, Motorola, Natural Microsystems, NetWorks Telephony Corporation, Rockwell, Siemens and Telstra.	With approximately 160 telecommunications service providers in 55 countries worldwide. The Clarent system has been installed in leading service provider networks, including those of AT&T Corporation, China Telecom, Chunghwa Telecom (Taiwan), Ji Tong Communications Co., Ltd. (the People's Republic of China), KDD (Japan), Korea Telecom (South Korea), Pacific Gateway Exchange (United States), Singapore Telecom, Star Telecom (United States), Telstra (Australia) and Telia Telecom (Sweden).	Nokia (acquired Vienna in Dec 98), Siemens Business Communications Systems and NEC Corporation, Newbridge Networks Corporation.

ALLIANCES

The IP Telephony industry is characterized by a large number of competitors, alliances, partnerships and acquisitions. 1998 was an important year for the growth of the Internet telephony industry. IP Telephony advanced from an experimental technology to a viable one due to improvements in quality and reductions in latency. While small companies have broadened their customer bases, large telecommunication companies have entered the arena and are currently competing for this industry which is expected to reach a volume of \$1.89 billion in 2001. Most of these entrants choose to buy stakes in or form alliances with the prevailing industry leaders, and we believe they will continue to do so. Pioneers in the IP Telephony industry have superior know-how and experience, which makes them increasingly valuable.

As opportunities associated with the IP Telephony industry become evident, telecommunication giants all over the world are getting involved in the IP telephony industry. Deutsche Telekom is the best example of this trend by buying a 21 percent stake in VocalTec. French Telecom and Telekom Italia are currently looking for ways to enter the market, while Japan Telecom already provides IP Telephony services. Another giant that invests heavily in IP Telephony is Cisco, which has a large number of alliances with various relatively small firms in the industry. Other big companies that are interested in the area include Motorola, Ericsson, Nokia, Siemens, Lucent Technologies, Nortel, Ascend, MCI, AT&T, Sprint and Creative Technologies.

As a leading company in IP Telephony, VocalTec has been fairly successful in attracting large firms that were considering strengthening their positions in this market. The company is now seeking R&D and Sales and Marketing alliances with the giants as opposed to competing head to head with them. Although the formation of these alliances is fairly difficult because they are strategic to both sides, we believe that they are key to the success of the company and should be closely monitored in the future.

Summary of Main Strategic Alliances

Company	Scope
Deutsche Telekom	acquired 21.1 % of VocalTec, Dec 97
Cisco Systems	Interoperability, setting the standards, Nov 98
Bezeq International	Deployment in Israel, Sept 98
Lucent and ITXC	Interoperability, Sept 98
Motorola Inc.	distribution agreement, Jul 97
AT&T	Interoperability, Oct 97

- October 6, 1997: **AT&T**

Scope: interoperability

AT&T and VocalTec announced that they have entered into agreements with ITXC Corp., a new company that will provide interexchange services to Internet telephony service providers (ITSPs) and others. The AT&T and VocalTec agreements provide for possible equity stakes in ITXC. VocalTec will also provide ITXC with technology and software products.

- January 27, 1997: **DACOM INTERNATIONAL**

Scope: distribution agreement

VocalTec announced a distribution agreement with Dacom International, a subsidiary of Dacom Corp., one of South Korea's largest long distance, international telephone and on-line service providers. Under the agreement, Dacom International will distribute and install VocalTec Telephony Gateway products providing Internet Telephony Gateway services to the public and businesses in South Korea.

- January 29, 1997: **TELECOM NEW ZEALAND**

Scope: deployment

Telecom New Zealand will be the first telecommunications company in the Australia region to offer international phone-to-phone and PC-to-phone Internet telephony service using VocalTec products. Telecom New Zealand is the third national communications company -- after Dacom International of South Korea and Telecom Finland -- to offer Internet telephony services based on VocalTec products.

- July 23, 1997: **MOTOROLA Inc.**

Scope: distribution agreement

VocalTec and Motorola Inc.'s (NYSE: MOT) Internet Software Products Division announced the signing of a licensing and distribution agreement intended to bring the full range of VocalTec Internet (IP) telephony client/server software solutions to mainstream corporate customers.

- December 30, 1997: **DEUTSCHE TELEKOM**

Scope: strategic cooperation and acquisition

Deutsche Telekom AG (NYSE: DT) and VocalTec announced that, pursuant to a Memorandum of Understanding signed August 27, 1997, the two companies have reached final agreement on a Share Purchase and a comprehensive Strategic Cooperation Agreement. The agreements provide that Deutsche Telekom will acquire a 21.1 percent stake in VocalTec and will purchase more than \$30 million of VocalTec's products and services, including at least \$21.7 million by December 31, 1999.

- February 10, 1998: **ECI TELECOM**

Scope: marketing agreement

ECI Telecom Ltd. (NASDAQ: ECILF) and VocalTec announced a comprehensive joint development and marketing agreement intended to bring carrier-grade, end-to-end IP telephony solutions to telephone companies and network operators worldwide.

- **March 9, 1998: FUJITSU BUSINESS SYSTEMS**

Scope: deployment

VocalTec and Fujitsu announced the signing of a distribution agreement intended to bring the full range of VocalTec IP telephony network solutions to mainstream, national and multi-national corporate customers worldwide. Fujitsu Business Systems will start by focusing on distributing VocalTec's IP telephony network solutions in Japan.

- **March 10, 1998: VOCALTEC ACQUIRES RADLINX**

Scope: acquisition

VocalTec announced that it has finalized an agreement to acquire substantially all the assets and assume certain liabilities of RADLINX Ltd., a leading developer of innovative standards-based products for real-time online fax, e-mail-to-fax and fax-to-e-mail transmission over IP networks. VocalTec acquired substantially all the assets of RADLINX for a purchase price of \$8.86 million, payable in the form of 421,905 Ordinary Shares of VocalTec, and assumed RADLINX liabilities of approximately \$2.5 million.

- **March 30, 1998: PORTAL SOFTWARE**

Scope: product development

VocalTec and Portal agreed to deliver a scaleable, real-time customer management and billing software solution which utilizes software from Portal and the VocalTec end-to-end IP communications Ensemble Architecture, creating a scaleable solution for Internet telephony service providers (ITSPs) to register, track, manage and bill subscribers in real time.

- **June 5, 1998: DEC**

Scope: product integration

Digital Equipment Corp. and VocalTec announced that DEC would integrate VocalTec's IP telephony software with DEC's own products. This worldwide integration is important in the sense that it makes IP telephony accessible to many people.

- **September 1, 1998: DEUTSCHE TELEKOM and ASCEND**

Scope: deployment and product integration

Deutsche Telekom announced that its subsidiary in Canada plans to launch a phone to phone IP telephony service with inter-connectivity between Canada and over 100 international markets. This showed that Deutsche Telekom is preparing to become a major global ITSP, which offers both PC to phone and phone to phone IP telephony with global inter-connectivity. The service will utilize VocalTec's IP telephony equipment to enable residential and business phone calls to be routed over the Internet. PC to phone service will also utilize Ascend's MultiVoice on the MAX IP telephony platform.

- **September 1, 1998: EXCEL SWITCHING**

Scope: product integration

VocalTec and Excel Switching Corporation (NASDAQ: XLSW), a leading provider of open switching platforms for telecommunications networks worldwide, announced the signing of a memorandum of understanding (MOU) to integrate the VocalTec Ensemble Architecture™ IP Telephony solution and Excel's ONE Architecture™, an open network expandable switching platform. The goal of the product integration is to offer a carrier-grade programmable switch which provides a fast-to-market solution for full IP telephony capabilities, supporting well over 10,000 voice over IP (VoIP) ports, and a broad array of customized and enhanced services.

- **September 7, 1998: EXIT2EUROPE**

Scope: deployment

Exit2Europe, a Dutch ITSP, has announced that it plans to utilize VocalTec's IP telephony equipment to launch a phone to phone service in the Netherlands. The service will be billed on a post paid basis. Exit2Europe plans to expand the service to include markets in Australia, Canada, Indonesia, Japan and South Africa.

- September 8, 1998: **AMDOCS**

Scope: product integration

Amdocs (NYSE: DOX), a major international provider of customer care and billing solutions to the telecommunications industry, and VocalTec announced a joint cooperation agreement. Through the agreement, the companies will integrate Amdocs' Ensemble™ system with the VocalTec Ensemble Architecture™ (VEA) to offer carriers and service providers a fully-integrated, comprehensive solution for customer care, billing and IP telephony operations.

- September 14, 1998: **LUCENT TECHNOLOGIES AND ITXC**

Scope: interoperability

Lucent Technologies and VocalTec demonstrated the industry's first interoperable Internet Telephony gateways over ITXC network. The interoperable solution is based on the International Telecommunications Union (ITU) H.323 RAS Version 2. This represented a major step forward for the IP telephony industry because it was the first successful trial of compatibility between major systems.

- September 15, 1998: **BEZEQ INTERNATIONAL**

Scope: deployment

Bezeq International, Israel's largest service provider of international telephony, private lines, ISDN, and Frame Relays has chosen the VocalTec Ensemble Architecture(TM) for its commercial IP telephony pilot.

- November 11, 1998: **CISCO SYSTEMS**

Scope: interoperability

Cisco Systems and VocalTec announced that the two companies are developing interoperability between their IP telephony solutions based on the International Telecommunications Union (ITU) H.323 Version 2 international standard. This agreement was seen as a major improvement in ensuring interoperability in the IP Telephony industry.

- November 23, 1998: **TELIA LIGHT**

Scope: deployment and implementation

Telia Light, a Swedish telecommunications company which is a leading innovative carrier in deploying new technology with a strong influence in the Scandinavia and Baltic region chose VocalTec Ensemble Architecture as the foundation for its IP telephony services. VocalTec and Telia Light also plan to develop additional PC based IP communications services in 1999. Additionally, Telia Light's PC-to-phone service will be based on the VocalTec Internet Phone Lite™ solution.

- June 8, 1999: **ACCESS POWER**

Scope: co-marketing agreement

Access Power Inc., an Internet based long-distance provider, combines its flat-rate Net.Caller(TM) service with the VocalTec's Internet Phone(R) in an innovative promotion to give consumers a complete Internet phone calling package. Both companies plan to co-market their combined Internet long-distance service in the U.S. and Canada.

- July 2, 1999: **DEUTSCHE TELEKOM**

Scope: deployment

VocalTec plans to start the largest deployment of VocalTec Surf&Call Center(TM) to date in the commercial premier of Deutsche Telekom's freecall Online(TM), believed to be the most extensive Web-to-call center service in the world. Based on VocalTec's Ensemble Architecture(TM), Surf&Call Center allows carriers, service providers and call centers to provide e-commerce web site content and voice telephony simultaneously over the Internet.

STANDARDS

Like in most emerging technologies, establishing standards and ensuring interoperability among systems is important in the IP Telephony industry. Interoperability between different systems is vital to ensure seamless connections between networks. From the beginning VocalTec has been a leader in pushing for the acceptance of international standards. Like Cisco, VocalTec is now committed to using open international standards.

Currently, the vast majority of the proposed standards in the industry falls under the H.32X family. The H.320 standard covers narrow band (56k to 2Mbit/sec) voice and video conferencing systems communications over circuit networks. It includes various specifications that relate to compression, transmission and control of data for a broad range of applications. The H.310 and H.321 standards adapt to H.320 to accommodate higher bandwidths. H.322 is a standard that is established for guaranteeing QoS (Quality of Service). H.323 is a standard that extends H.320 to networks such as packet-switched networks that do not guarantee QoS. It supports both point-to-point and multi point operations, and for ensuring quality this standard relies on Gatekeeper functions.

The most important vendors in the IP Telephony industry currently provide systems that support the H.323 standard. The H.323 v2 standard, which is the latest version of H.323, has enhanced features with respect to quality, and widespread adoption of this standard allows companies to focus on diffusing the technology with greater ease. Increasing alliances, mergers and acquisitions in the industry also help to minimize barriers on the interoperability of systems.

On the other hand, the MGCP (Media Gateway Control Protocol) standard, which has been developed for overcoming problems that H.323 pose on large-scale applications, incorporates carrier-class features to networking systems. Although some companies advocate the MGCP standard, support from industry leaders such as Cisco, Lucent and VocalTec strengthens H.323's position. Furthermore, ensuring interoperability even between these standards is also feasible.

VocalTec's major involvement in the establishment of industry standards is a clear indicator of its leadership in IP Telephony. The Company is well aware that the prominence of standards enables consumers and businesses to make their preferences from various competitors. VocalTec is a pioneer in standard setting.

- VocalTec developed and implemented revision 2 of the H.323 standard.
- VocalTec is partnering with Ascend, Cisco and Lucent to develop interoperability based on the H.323 standard.
- Lucent Technologies and VocalTec demonstrated the industry's first true interoperability over ITXC's network at the Fall '98 Voice On The Net conference.
- During 1997, VocalTec Communications in conjunction with the European Telecommunications Standards Institute (ETSI) founded the ETSI Project TIPHON (Telecommunications and Internet Protocol Harmonization over Networks) and currently holds the Vice Chairman position of the committee. TIPHON focuses on specifying the interface between the PSTN and IP based networks and is supported by major worldwide service providers and equipment manufacturers including Deutsche Telekom, France Telecom, Ericsson, Lucent and Alcatel.
- VocalTec is a founding member of the Voice over IP Forum (VoIP) which is a division of the International Multimedia Teleconferencing Consortium and a cooperative coalition of Internet telephony, hardware, software and networking industry leaders, including Dialogic and Cisco Systems.
- VocalTec plays several key roles in pushing and leading various working groups in the Internet Engineering Task Force (IETF), the organization responsible for defining all Internet-related standards.
- PacketCable is a project conducted by Cable Television Laboratories, Inc. and its member companies. Among the organization's key goals are identifying, qualifying, and supporting Internet-based voice and

video products over cable systems. Two VocalTec development team members, Maxim Levy and Omer Luzzati, participate in the CableLabs specification activities.

We believe that the establishment of standards in the IP Telephony industry is in progress. As a result of the Company's active participation and leadership in the definition and implementation of these standards, VocalTec products are compatible with the current standards, and they will continue to be so. It is important to keep in mind that the value of a network increases as the square of the number of people who use it, thus, this law indicates the enormous potential of the IP Telephony industry and of the companies that offer integrated products and services with the rest of the industry.

REGULATIONS

As voice, video and data communication systems are integrated into a single network, the IP Telephony Industry will increase its strategic importance in shaping global telecommunication systems. These changes in the communication industry are inevitable due to this new technology and have started an ongoing debate about the need for regulation in the IP Telephony Industry. Policymakers will affect the future of the industry by the rules they will dictate.

The Federal Communications Commission (FCC) is the institution that regulates IP Telephony Service Providers (ITSPs). In the 1980s the FCC created an enhanced service category, which is exempt from access charges and not subject to regulation at the federal or state level. The main debate that emerged was from the question as to whether ITSPs should be regarded as long distance carriers or not. If ITSPs were regarded as long distance carriers, they would be exposed to the regulations for long-distance carriers, which meant a 4 percent direct tax to the Universal Services Fund (USF). ITSPs ended up being considered "enhanced service providers" under FCC rules because ITSPs did not exhibit market powers and there are some practical considerations to regulate them.

The FCC does not regulate the rates that enhanced service providers charge to their subscribers. Under FCC rules, ITSPs are considered "end users" when they purchase services from local telephone companies. Thus, ITSPs pay the same rates as any other business customer, and these rates are set separately in each state. By contrast, long-distance companies are considered "carriers" and they pay interstate access charges regulated by the FCC. Since 1983, there has been an ongoing debate about whether enhanced service providers should be required to pay access charges, based on the contention that these companies use local networks in the same manner as long-distance carriers.

In June 1996, four local telephone companies (Pacific Bell, Bell Atlantic, US West, and NYNEX) submitted studies to the FCC concerning the effects of Internet usage on these carriers' networks. The companies argued that the existing rate structure did not reflect the costs imposed on local telephone companies to support Internet access, and that Internet usage was causing congestion in part of the local network. But they have not filed a formal petition for rulemaking.

On March 4, 1996 ACTA (the America's Carriers Telecommunications Association) filed a petition with the FCC requesting an injunction against VocalTec and others. This was based upon their allegation that VocalTec et al were carriers and telecommunications services providers and that pursuant to the FCC, under the rules of the Communications Act of 1934 as amended, must, pursuant to Sections 203 and 214, mandate that VocalTec et al cease their delivery of telecommunications services. Section 203 requires that a common carrier file a tariff or similar document and Section 214 requires that a common carrier obtain a "certificate of convenience" (COC) from the FCC before any construction. ACTA alleged that the following were true:

- VocalTec et al were telecommunications carriers and common carriers.
- VocalTec et al must file with the FCC pursuant to 203.
- VocalTec et al must obtain the COC before "constructing" its software.

The FCC, in its non regulatory response to the ACTA petition, stated that bandwidth and access in an information world should be on a par with clean air and water -- we are all benefited when these are

available from Canada to South Africa from Alexandria, Virginia to Alexandria, Egypt to Alexandria, South Africa.

We believe there is still a long way to go in the regulation process of IP Telephony because it is a new industry and the tremendous growth pace brings new applications which makes the process more difficult. The rules that policymakers make will affect the shape and growth of the IP telephony industry. We think that the regulation process will not negatively affect the IP telephony industry since this new technology is increasing competition, increasing choice, and lowering the cost of communication services.

Finally, we believe that regulatory requirements should also be examined carefully as Europe threatens the US in that area too. The European Commission has recently ruled that IP telephony cannot be regarded as "voice telephony" and is not subject to formal licensing requirements at this time. Many of the leaders in Internet and IP Telephony products and services are based in the United States. In our opinion, the fact that regulatory decisions for IP Telephony in the U.S. could create competitive advantages for Europe based competitors is well recognized by the regulatory agencies.

FINANCIALS

Income Statement(thousands)

	FY95	FY96	FY97	FY98	FY99E	FY00E
Net Sales	2468	8495	15683	24650	27000	35500
Cost of Sales	336	1232	2243	5938	7290	7100
Gross Profit	2132	7263	13440	18712	19710	28400
Operating Expenses						
R&D Costs, net	793	3250	5519	11192	14310	14200
Marketing and sales expenses, net	2029	9673	13449	18509	27000	28045
General and administrative expenses	646	1524	3196	5204	7020	6390
Total operating expenses	3648	14447	22164	34905	48330	48635
Financial income, net	-32	1309	1044	2668	810	2840
Net Loss	-1368	-7160	-7680	-23151	-27810	-17395
Net loss per share (in US dollars)	-0.23	-0.86	-0.89	-2.08	-2.41826	-1.49957
Weighted average number of shares outstanding (thousands)	5930	8289	8618	11145	11500	11600

*Excluding possible one time charges

Operations as percentage of Net Sales

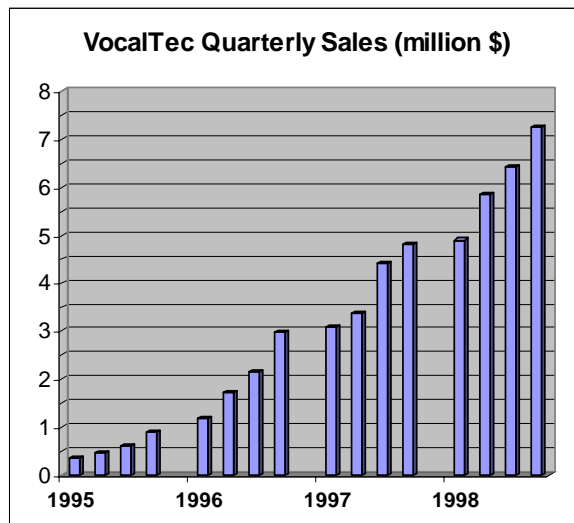
	FY95	FY96	FY97	FY98	FY99E	FY00E
Net Sales	%100	%100	%100	%100	100%	100%
Gross Profit	%86	%85	%86	%76	73%	80%
R&D Costs, net	%32	%38	%35	%45	53%	40%
Marketing and sales expenses, net	%82	%114	%86	%75	100%	79%
General and administrative expenses	%26	%18	%20	%21	26%	18%
Total operating expenses	%148	%170	%141	%142	179%	137%
Financial income, net	%1	%15	%7	%11	3%	8%
Net Loss	%55	%84	%49	%94	-103%	-49%

Results of Operations

The table above displays VocalTec's consolidated statement of operations. We see that net sales have an increasing trend while gross margins have a decreasing trend.

Revenues. The company increased its net sales by 84% in 1997 and by 57% in 1998. The service provider segment - Telcos and ITSPs accounted for the largest percentage of sales in 1998, over 73% of sales as opposed to 30% in 1997. In other words, the company pursued a new sales strategy mainly focusing on large-scale customers.

It is interesting to note that it is anticipated that the market demand for IP telephony hardware and software will continue to grow at a compounded rate, according to high range estimates by Frost and Sullivan. Furthermore, there is an increased market segmentation between low cost telephony services and enhanced IP communication services. VocalTec serves both segments, the first which is in the deployment phase and the second which is in the pilot phase with an even split in revenues, according to last quarter's results. We estimate a sales growth of 12% for 1999 and of 30% for 2000 when both of the segments should be in their large scale deployment phases.



R&D In order to remain competitive by developing new and enhanced products, VocalTec allocates an increasing portion of its resources to research and development. R&D expenditures have increased from 35% of net sales in 1997 to 45% in 1998, which is a substantial amount. Since R&D investment is a key factor for success in the IP Telephony industry, we expect VocalTec to continue this spending. Moreover, as we expect significant increases in the net sales in 2000, the relative share of R&D costs is likely to decrease.

Sales and Marketing We expect marketing and selling expenses to continue to increase due to the effort of penetration into the service provider market, but that net sales will grow faster than marketing and selling expenses. We predict these trends mostly because the company is switching to a more efficient marketing strategy that involves marketing alliances or joint efforts with large telecommunication companies such as Bell Atlantic and large technology companies like Cisco systems.

Cash VocalTec owns a 15% share (5.5M shares) in ITXC, a clearing house for independent IP Telephony networks that VocalTec was commissioned to startup. ITXC is going public this month and its stock price performance is expected to be outstanding, easily reaching \$30 per share. Because this could then translate into \$160M in current assets for VocalTec, we believe that this holding solves the liquidity problem of the company for a while since it already has \$20 M in cash and its burn rate is about \$6 per quarter.

Price Chart Analysis

- DT deal at a price of \$21 per share had a vast influence on the stock price. We can see a strong resistance level at the beginning of 1998 at around this price level.



Courtesy of BigCharts.com

- Several factors which eventually lead to some loss in investors' confidence played a role in the price decline in the period prior to August 1998.
 - The reported losses in the past 10Qs due to the constant investment in R&D and later in intense marketing.
 - Ambiguity over industry regulations in the US.
 - Lack of interoperability, which is holding up the industry from boosting up global expansion.
- We believe that at the current price the company's stock is fairly valued. Resistance and support levels are \$14, \$13.20, \$11.80 and \$9.6, \$10, respectively. The \$15.4 level is also a strong resistance level. If this is broken, the price has potential to reach Deutsche Telecom (DT) deal price of \$21. The DT deal price of \$21 per share was paid in January 1998 for 21% of the company.
- We see that price has not shown a satisfactory improvement since November 1998 and fluctuates in a narrow channel because the actual performance of the company has been below expectations.

INVESTMENT OPINION

We believe that, because of its efficiency, IP telephony will be the dominant technology used for the transmission of voice, video and data in the future. Many companies are emerging with new products for this industry from startups to large telecommunication and technology companies, which are even spinning off their IP telephony divisions to make them more focused and maximize their valuations. The competition in this industry is becoming fierce even though the transition from the circuit switch legacy systems to IP telephony should be slow and gradual.

Vocaltec is a pioneer in the IP telephony industry and has been a leader in setting up its standards. It has a large R&D group committed to voice over IP and it is now committed to open international standards. Furthermore, VocalTec has a good portfolio of strategic alliances in different areas with leading companies

such as Deutsche Telecom, ITXC and Cisco. It is currently restructuring by narrowing down its focus, divesting its enterprise-oriented business, hiring managers with more experience and expanding its R&D and Sales and Marketing alliances. However, it now faces increasing competition in a sector characterized with rapidly changing technology, where the latest best technology usually gains the most market share such that leadership is unstable. Moreover, some of VocalTec's competitors are larger and thus have more resources to compete and to acquire complementary technologies. We believe that VocalTec should leverage on its brand and experience to get into alliances with giant Telcos and Technology companies to compensate for its relatively limited resources and become more competitive.

Last quarter's results showed lower than expected revenue growth rates and profitability for this company seems to be far. On the other hand, the outlook for the IP telephony market growth is positive and we believe that the recent strategic reorganization of the company will be effective. The stock of the company has been consolidating for months near the \$11 level and we expect it to show some improvement in the long term once the effects of the recent reorganization, revenue figures more in line with estimates and more alliances with global players, will be announced. We therefore give VocalTec a long term accumulate rating.