

testified before U.S. courts of law, regulatory commissions, and Congress on economic policy issues. I received Bachelors and Masters degrees in Electrical Engineering from Cornell University in 1966 and 1967, respectively. I received a Masters degree in Economics from Stanford University in 1975, and a Ph.D. in Engineering-Economic Systems from Stanford University in 1976.

I, Robert G. Harris, being duly sworn, depose and say:

I am a Principal at LECG, Inc. and Professor Emeritus of Business and Public Policy in the Haas School of Business, University of California at Berkeley. I earned Bachelor of Arts and Master of Arts degrees in Social Science from Michigan State University and Master of Arts and Doctor of Philosophy degrees in Economics from the University of California at Berkeley. My academic research has analyzed the effects of economic regulation and antitrust policy on industry performance, and the implication of changing economics and technology for public policies in transportation and telecommunications. Early in my career, I published extensively on competition, vertical relations and regulatory policies in the rail freight industry. More recently, I have published research on the reform of Japanese telecommunications policy; the strategic character of telecommunications services and its implications for public policies; the effects of regulation and the AT&T divestiture on technological innovation in telecommunications; the deployment and adoption of Integrated Services Digital Network; the development of competition in local access and exchange services; and the development of interconnection policies.

As an advisor to the U. S. Department of Transportation from 1976-79, I assisted in the drafting of legislation that was passed by Congress in 1980, reforming regulation of the motor carrier and railroad industries. While on leave from the University of California in 1980-81, I served as a Deputy Director for Cost, Economic and Financial

Analysis at the Interstate Commerce Commission. At the I.C.C., I was centrally involved in the major rule makings implementing the motor carrier and railroad regulatory reform acts of 1980 and directed the development of the Uniform Rail Costing System. I have also served as a consultant to the U.S. General Accounting Office, the U.S. Office of Technology Assessment, the U.S. Department of Justice, the California Attorney General and the California Department of Consumer Affairs. I have advised the Economic Planning Agency of Japan on the reform of Japanese telecommunications policies.

I have testified on telephone rate design, costing and pricing principles, competition policy and alternative regulation before the Federal Communications Commission and before the state commissions of 25 states plus the District of Columbia. I have testified before the United States Senate, the United States House of Representatives and the Joint Economic Committee of Congress on transportation, antitrust and telecommunications policy issues.

We have been asked by SBC Communications Inc. ("SBC") to evaluate the economic benefits of the proposed merger of SBC and Ameritech. Our analysis considers the impact of the merger for consumers in the rapidly changing telecommunications marketplace and summarizes the efficiencies that can be expected from the merger. We conclude that the merger is likely to provide substantial consumer benefits in the form of enhanced service alternatives, more rapid introduction of new services, and lower quality-adjusted prices.

The attached report contains the results of our analysis and the bases for our conclusions.

Richard J. Gilbert

Richard J. Gilbert

Robert G. Harris

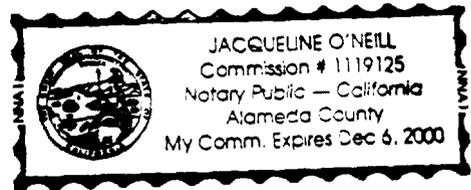
Robert G. Harris

Subscribed and sworn to before me

this day of July 21, 1998

Jacqueline O'Neill

Notary Public



**REPORT OF
RICHARD J. GILBERT
AND
ROBERT G. HARRIS**

July 21, 1998

Economic Benefits of the SBC-Ameritech Merger

I. Introduction

1. The purpose of this affidavit is to address the consumer impacts of the proposed SBC-Ameritech merger. Consumers benefit from new products and services and lower quality-adjusted prices than would occur without the merger. The merger presents significant opportunities to speed the development and introduction of new services and to reduce costs while improving service quality.

2. Section II summarizes the changes that are taking place in the local, national and global telecommunications industry and discusses how the merger fits in this dynamic marketplace. The telecommunications world of today is markedly different from that which existed in the past, and continues to change rapidly. The benefits that consumers receive from firms in the telecommunications marketplace will only come to pass if the firms who participate in the market are allowed to configure and transform themselves into entities that will succeed in this revolutionary period.

3. Section III describes the consumer benefits from the merger. The merger will enhance consumer welfare by accelerating the introduction of new services, increasing the utilization of existing services, and promoting competition in the supply of integrated services. SBC estimates the total cost savings from the merger to be around \$2.5 billion,¹ of which \$778 million is the result of increased utilization of existing products.² In addition to the increased consumer benefits from existing products, the merger will also allow the companies to develop and roll out new

¹ Kaplan Affidavit ¶ 2.

² Kaplan Affidavit ¶ 7.

technologies faster through sharing of research efforts, knowledge, and test markets, and because the merged company will have a larger base over which to spread costly and risky development and product introductions.

4. Section IV evaluates the efficiency estimates for the merger taking into account the results achieved in SBC's merger with Pacific Telesis. Experience shows that SBC's *ex-ante* estimates of the benefits of its merger with Pacific Telesis were on target. The benefits that can be expected from the SBC-Ameritech merger, supported by the results that have been achieved in the SBC-Pacific Telesis merger, lead to the overall conclusion that the merger of SBC and Ameritech is clearly in the public interest. The merger creates large efficiency gains and will have no anticompetitive effects. Indeed, the merger will enhance competition in those markets targeted by the merged company's national/local business plan and will likely stimulate new competition in integrated services to the benefit of consumers in the present SBC and Ameritech service areas.

II. The Merger Is Responsive to the Changing Dynamics of the Telecommunications Marketplace

5. The merger of SBC and Ameritech is an organizational response to the rapidly changing dynamics of the telecommunications industry. Chairman Kennard recently told a group of telecommunications investors and analysts: "the telecom industry is not just about to enter a revolution. It's in one."³ Technological change is affecting SBC and Ameritech in three critical respects:

- a) Consumers' growing appetite for voice, data, and video applications is influencing the

³ William E. Kennard, Chairman, FCC, Remarks to Legg Mason "Telecom Investment Precursors" Workshop, as prepared for delivery, Washington, DC, March 12, 1998.

competitive landscape by placing a premium on technologies that provide large amounts of bandwidth.

- b) Consumers are also eager for packages that integrate voice, data, Internet, and other services, making it advantageous for business arrangements that can provide service packages at low cost.
- c) The rapid change in wireline, wireless, and cable-based telecommunications technologies means that companies such as SBC and Ameritech must maintain a broad portfolio of technological assets to ensure their ability to remain competitive as the telecommunications industry continues to evolve.

6. The simple fact is SBC and Ameritech no longer enjoy the certainty of being a regulated, franchised supplier of access and switching services for voice telephony. As discussed below, traditional voice telephony occupies a shrinking share of the total demand for communications services. Business and residential consumers have an increasing demand for data, and the distinction between voice telephony and data is becoming blurred.⁴ Multi-location business

⁴ For example, "Bell Atlantic will begin building a long distance data network next month to tap the multibillion-dollar market for high speed services within its East Coast region... Bell Atlantic said it hopes the packet-switched network will generate \$3 billion a year in revenue by 2003 through high speed services such as Internet access, data transport and video conferencing... [The network] will incorporate asynchronous transfer mode (ATM), synchronous optical network (SONET) and wave division multiplexing (WDM) technologies." From "Bell Atlantic to Build Long Distance Data Network," *Telecom A.M.*, June 9, 1998. Also, a study by SRI consulting finds that "business fax transmissions, voicemail messages and pages - - not real-time voice conversations - will drive most of the growth in the use of internet telephony in the next five years." From "IP Telephony to Capture Five Percent of LD Traffic by 2002, Study Says," *Telecom A.M.*, April 16, 1998. Furthermore, Alan Cane of the *Financial Times*, asserted that, "...high bandwidth, or broadband, systems are necessary to transmit multimedia: the moving video images, high fidelity sound and top-quality graphics that will characterize tomorrow's communications... When you say multimedia, are you talking about Internet and such like? The transmission of data - Internet traffic is one example - is growing fast and should exceed the volume of voice traffic early next century." From "Telecom A.M. Guide: The New Telephony," *Telecom A.M.*, October 7, 1997.

customers in particular have a demand for a bundle of local, long distance and data services from a single supplier to simplify billing and obtain economies of "one-stop shopping."⁵ These customers are a key marketing target for the merged SBC-Ameritech national/local business plan.

7. Firms that can provide telecommunication services, including data services, cheaper and more effectively will take market share from the landline local exchange carriers. Firms that can provide integrated packages of data, voice and other services will be especially effective competitors in the telecommunications industry of the future.

8. These changes in technology and demand make it crucial that public policy makers consider the dynamics of the telecommunications marketplace when evaluating the SBC-Ameritech merger. The merger in no way gives the combined SBC-Ameritech leverage to delay these emerging technologies. Instead, the combined company provides a better organizational platform to develop and introduce new technologies and services that respond to consumer demands. A primary benefit of the merger is the ability to develop and roll out competing technologies and services faster than would be possible for the companies individually.

9. The public interest benefits of the merger necessarily must consider the likely economic consequences to the merger parties and their customers if they fail to complete the intended transaction. The experience of industries that are in the process of de-regulation, or have already witnessed de-regulation, is that market forces disregard the geographic and product boundaries that have been imposed by regulators. Competition from suppliers in related industries or from the same industry in different geographic locations tend to unravel the structure of service tariffs designed by the regulators. Competitors target and win the more profitable customers, which in the case of telecommunications are the high volume users that account for a very large share of total revenues. Firms that remain under the "protection" of regulation face a dwindling customer base which is

⁵ "On the Value of Being Integrated," Yankee Group, July 1997.

increasingly expensive to serve. The consequence of the erosion of market share is an eventual need to re-structure regulated rates to recover the increasing per-capita revenue requirements of the remaining customers.

10. The merger of SBC and Ameritech can mitigate the adverse effects of increasing competition on formerly captive customers, such as residential and small business consumers, by making the merged company better able to compete for market share. These customers can benefit from this enhanced competition for two reasons. First, by retaining profitable customers, the merged company retains a source of earnings that contributes to the fixed costs of serving all customers. Second, the competition for customers will take place with new and improved technologies that will produce benefits for all customers in the form of enhanced choices and lower costs.

11. Technological change is dramatically altering the competitive landscape in the telecommunications industry. Significant technological developments in radio communications, including microwave, satellite, terrestrial broadcast radio and television and cellular telephone, have dramatically lowered the cost, improved the quality and proliferated a wide range of wireless communications services. It is also increasingly clear that the coaxial wireline cable TV network will be upgraded technologically to provide point-to-point telecommunications services. Competition for incumbent telephone companies coming from new data services is rapidly expanding as they provide head-to-head competition with SBC and Ameritech's existing telecommunications services. Voice service delivered over the public switched network is facing increasing competition from data services, such as faxes and e-mails. The number of e-mails sent per day, for example, is growing at 55 percent annually and at that rate would reach 5 billion messages per day by the year 2005 in the U.S. alone.⁶ Moreover, many data services, such as faxes

⁶ "Telecom Restructured," *Forrester Research*, September 1997, p. 5. Also, George Gilder predicts that if growth in Internet usage continues at current rates, voice services will fall to less

and e-mails, are rapidly moving off the public switched network and onto the Internet and wireless networks.⁷ Dataquest predicts that the number of fax pages sent over the Internet rather than the public network will increase over one hundred fold from 44 million in 1997 to 5.6 billion in just three years.⁸

12. Data communications services are the fastest growing services in telecommunications, and none of this traffic is reflected in the standard measures of competition based on access lines. For example, Forrester research estimates that, by 2004, Internet telephony will divert \$3 billion of normal telco traffic.⁹ While these services are not perfect substitutes for voice services, it is clear that the degree of substitutability is increasing over time. According to a report by the International Engineering Consortium, traditional wireline voice service, which today generates more than 80 percent of total RBOC and IXC revenue, will amount to less than 50 percent by 2010.¹⁰

13. Not only are consumers using the Internet to send e-mail and files rather than dialing up their colleagues and sending faxes, but now the Internet can handle voice traffic (albeit voice broken into packets). With cheap transport, cost-effective packet-switches, and metro area SONET fiber rings, CLECs are bypassing much of the local exchange network. Commenting on the Sprint announcement of ION (a new broadband local telecommunications offering currently in

than 1 percent of telecom traffic by 2004. See "The Fiber Baron," *The Wall Street Journal*, October 6, 1997, p. A22.

⁷ E-mail and Internet faxes not only substitute for the local provider's retail services, in terms of intraLATA toll traffic, they also result in a loss of wholesale revenue through reduced switched access traffic. . .

⁸ "Dataquest Says Internet Faxing is on the Way to Provide Low-Cost Alternatives to Traditional Faxing," *Dataquest Press Release*, November 10, 1997.
<<<http://gartner3.gartner.com/dq/static/about/press/pr-b9757.html>>>.

⁹ "Telecom Restructured," *Forrester Research*, September 1997.

¹⁰ Robert M. Janowiak, Massoud Saghafi, and Jagdish N. Sheth, "Communications Outlook: Competition, Growth, and Consolidation," *Annual Review of Communications*, International Engineering Consortium, Volume 50, 1997.

development), Wall Street Journal analysts summarized the BOCs' situation in these terms:

"With data rapidly overtaking voice calls as the primary traffic on phone networks world-wide, the big phone companies need to retool their systems, lest rivals such as Sprint, IXC and even tiny Frontier Corp. move in quickly and lure away their high-spending business and residential customers. The newcomers can provide a full suite of voice and data services to business customers simply by leasing a pipeline from local carriers, relegating the Bells to the role of a wholesaler of dumb wires."¹¹

14. Americans' increasing appetite for bandwidth is substantially impacting local competition by reshaping many competitors' strategies and destroying old paradigms such as local service. The most sought after access to the customers' premises may not be the two wire copper loop but the next generation "access" technology or the protocol that will "soup up" the loop.

15. An important point to note with respect to many of these new technologies is that they do not require access via the local loop provided by the incumbent LEC. For instance, Internet access is available both via fixed wireless facilities and cable modems. VSAT provides another important and evolving technology that bypasses LEC local loops. VSAT networks compete directly with Ameritech, SBC and other exchange carriers by using satellite links in place of local loops. VSAT technology also offers higher reliability and increased adaptability by allowing a gradual increase in bandwidth without having to replace equipment.¹²

16. Besides VSAT technology, satellites are playing a very large role in other competitive aspects of telecommunications. Many of the world's largest firms are investing heavily in satellites for providing access. With their large geographic coverage, satellites offer the possibility of new and improved services such as global phone service, video, data broadcasting, and direct-to-car

¹¹ Stephanie N. Mehta and John J. Keller, "Sprint Plans to Integrate Voice, Data," *Wall Street Journal*, June 3, 1998, p. A3.

¹² Robin Gareiss, "Satellite Services: Down to Earth and Ready for Business," *Data Communications Magazine*, see <<<http://www.data.com/roundups/earth.html>>>, December, 1997, p. 4; Simon Bull, "Asia-Pacific VSAT Who Owns the Sky?," *Data Communications Magazine*, see <<http://www.data.com/global_networks/sky.html>>, March, 1997, p. 2.

audio services.

17. A significant change growing out of the availability of many new technologies is the shift from modal to intermodal competition. Where technologies were once designed for a specific purpose (e.g. cable for television, wireless for mobile services), these technologies are now jumping across multiple applications. Cable modems are used for data traffic and wireless services supplement local wireline telephone services.

18. A variety of technologies are being used to either supply services traditionally offered by local telephone companies or to supply advanced services such as high speed data. Among these alternatives are PBX systems used by large customers or for virtual private networks from firms such as AT&T, MCI, or Sprint.

19. Yet another aspect of this technological revolution is fixed wireless. Fixed wireless applications are competing directly with services traditionally provided over the ILEC network such as access, high speed access, and call handling capabilities. The advantage of fixed wireless is cost-effective high bandwidth. In a proceeding on LEC provision of CMRS services, the Commission noted that "fixed wireless technology has developed to the point where it has the potential to provide a competitive alternative to the incumbent LEC network" and that "[i]n the wake of the development of fixed wireless services, incumbent LECs and CMRS operators are increasingly likely to be direct competitors, and wireless carriers can no longer appropriately be regarded as merely providers of adjunct services."¹³

20. It has long been recognized that cable holds a tremendous potential in offering direct competition to local telecommunications providers. That potential is now being reinvigorated. Whereas the cable companies' digital dreams of interactive video and voice in the early 1990s were

¹³ Report and Order, In the Matter of Amendment of the Commission's Rules to Establish Competitive Service Safeguards for Local Exchange Carrier Provision of Commercial Mobile Radio Services, FCC WT Docket No. 96-162, rel. October 3, 1997, ¶ 54.

largely unrealized, they have found new life in the Internet era and the demand for high speed access. The nation's largest cable companies have started Internet access service via cable modems. Buoyed by the success of cable modems and the interest of Silicon Valley, the cable industry has also revived the strategy of converging entertainment and communications around TVs hooked into a cable connection with a small set-top box.

21. The merger of Ameritech and SBC must be viewed in the complex and evolving marketplace with its many players and technologies. It is insufficient to confine an analysis to "direct" sources of competition, examining only how many entrants are competing for local exchange service using their own facilities, unbundled network elements (UNEs), or resale. The competition from alternative services underscores the need for SBC and Ameritech to properly position themselves in the telecommunication industry. These alternative modes of communication services are increasingly becoming direct sources of competition as technology advances and consumer tastes evolve. Excluding these sources from an analysis of the merger leads to an underestimation of current competition and ignores highly significant market trends that are key strategic drivers for the transaction.

22. No one, of course, can know with certainty the contours of the telecommunications industry of the 21st century. Major telecommunications firms have been responding to these uncertainties in different ways. Many of the largest IXCs have been adding new services to their offerings by pursuing a strategy of acquisition. WorldCom, for example, has entered local exchange markets and has become the largest provider of Internet services by acquiring MFS, Brooks Fiber, UUNet, and if the merger is approved, MCI, to gain a total of 129 local networks across the country.¹⁴ AT&T, similarly, has acquired TCG, the largest CLEC in the U.S., and has announced plans to acquire TCI, the second largest U.S. cable provider.

¹⁴ *Inside the Competitive Local Exchange*, Third Edition, Telecom Publishing Group, 1997, pp. 93-97. See also, <<<http://www.brooks-fiber.com>>> and <<<http://www.mci.com>>>.

23. Other entrants are positioning themselves to serve customers through strategic alliances and partnerships in order to expand into new product and geographic markets. Several IXC's, including AT&T and MCI, have expanded into local markets by forming alliances with CLECs already operating in these markets. For example, MCI has signed preferred provider agreements with three CLECs covering 79 markets whereby MCI uses the networks of these CLECs to offer local service to customers, bypassing the networks of the incumbent LEC.¹⁵ AT&T has signed several similar agreements for the same purpose. Electric utilities are also entering new markets by leveraging their existing fiber assets into telecommunications through partnerships with CLECs and other telecommunications providers. ICG, for example, has partnered with several electric utilities throughout the country, gaining it access to over 2,000 miles of fiber, including 1,200 miles leased from Southern California Edison.¹⁶

24. Still other entrants are pursuing resale strategies to enter new markets and offer one-stop shopping. MCI, for example, has added paging to its offerings by purchasing wholesale services from PageNet and SkyTel, and has a resale agreement with Nextwave to purchase at least 10 billion minutes of PCS capacity over the next ten years.¹⁷ Of course, many entrants are entering local

¹⁵ The agreement with Brooks accounts for 37 of the markets, ACSI accounts for 21, and Hyperion for 21. See "Brooks Expands Preferred Provider Agreement with MCI," Brooks Press Release, July 10, 1997. See also, "MCI Selects ACSI As Preferred Provider in 21 Markets," *Telecom A.M.*, Telecom Publishing Group, Vol. 3, No. 20, January 31, 1997. Also, "Hyperion Named as MCI Preferred Provider of Dedicated Access Circuits," Adelphia Press Release, July 9, 1997.

¹⁶ "ICG Communications Announces Fiber Network Project in Atlanta," *ICG Press Release*, June 11, 1997; "ICG Telecom Group Enters Agreement To Lease 105-Mile Fiber Network From The L.A. Department of Water," *ICG Press Release*, September 25, 1996; "ICG Communications, Inc. And American Electric Power Enter Agreement To Add 45-Mile Fiber Optic Network In Columbus Metropolitan Area Plus 138-Mile Link To Canton," *ICG Press Release*, August 6, 1996; "IntelCom Group announces agreement with Southern California Edison to lease in excess of 1,200 fiber-optic route miles, a three-fold expansion of network," *ICG Press Release*, March 27, 1996; "Landmark Venture Joins Major Utility With Competitive Phone Carrier," *ICG Press Release*, January 14, 1997.

¹⁷ John Zahurancik and Elliot Hamilton, "Trends in World Paging and U.S. Paging," *MTA-EMCI Review*, 1996 as seen in *StrataViews* at <<<http://www.strategisgroup.com>>>. "MCI Enters

exchange markets around the country by offering resold services of incumbent local exchange carriers. USN Communications is packaging a comprehensive product offering through resale agreements with various facilities-based telecommunications providers.

25. As these examples illustrate, telecommunications firms are pursuing a wide range of strategies to prepare for the uncertain future of the industry. Some firms are integrating by acquiring firms that supply complementary products or similar products in different geographic markets. This strategy exploits economies of scope and scale in production and allows these firms to supply products that better satisfy consumer demands. The restructuring and redefining of the market, characterized by a constantly changing cast of niche players, mom and pop outfits, small entrepreneurial firms, and large fully integrated ones, is in response to the regulatory, technological, and market changes that have been taking place since divestiture and before.

26. The global telecommunications market and its occupants are undergoing profound change. "I think you're beginning to see a lot of positioning, getting ready for the new world order in telecommunications," said Dave Otto, a telecommunications industry analyst at Edward Jones, in St. Louis.¹⁸ Similarly, François Fillon, France's telecommunications minister, expects that many national markets will give way to one worldwide market. "The world telecom market will be organized around three or four or five big global operators," Fillon said.¹⁹ Firms like AT&T, the United Kingdom's BT and Japan's NTT are all attempting to compete by increasing and maintaining a large scale. The merger of SBC and Ameritech will create a company with the resources and technological assets to compete with these industry giants. In the dynamic and increasingly competitive environment that characterizes the evolving telecommunications marketplace, the merged SBC-Ameritech will be under intense pressure to offer consumers

Wireless Agreement With Nextwave," at <<<http://www.qualcomm.com>>>, August 26, 1996.

¹⁸ InfoWorld, July 21, 1997, Telcos go after international market.

¹⁹ infoWorld, 1/13/97.

attractive quality-adjusted prices to retain and win customers and to re-invest productivity gains from the merger to remain competitive.

III. Consumer Benefits from the SBC-Ameritech Merger

27. The merger of SBC and Ameritech will benefit consumers in five respects:
- a) By combining the resources of SBC and Ameritech, the merger will enhance investment opportunities and speed the introduction of new services and technologies.
 - b) The merger will facilitate diffusion of best practices between SBC and Ameritech, thereby lowering costs and facilitating the deployment of new services.
 - c) The merger will make possible other cost reductions by exploiting economies of scale and scope and by enabling purchasing economies.
 - d) Consumers will benefit from market responses to the announced national/local business strategy of the merged firm.
 - e) The merger will reduce the risk that ratepayers will be left responsible for the stranded assets of a company that is not competitive in the global telecommunications market.
28. The merger will generate the consumer benefits listed above in three different ways. The first is from improvements in the internal operations of the merged firm, which result in faster deployment of existing services, new services that are introduced more rapidly as a result of more effective research and development, and lower production costs that are passed on to consumers in competitive telecommunications markets. The second general source of consumer benefits is from market responses to the merged firm's operations. Entry into out-of-region markets, a key element of the merger's business plan, likely will cause other telecommunications firms to enter the merged firm's territory with their own integrated services. This competition will bring lower prices and

more choices to consumers. Finally, by making the combined firm a more effective competitor, the merger will mitigate losses of profitable customers to rival telecommunications suppliers, and thereby reduce the risk of stranded assets. We have addressed in Section II the impacts of the merger on market participants and on the ability of the merged firm to retain customers in the new telecommunications industry. This section focuses on the likely effects of the merger on the internal operations of the merged firm. Although efficiency gains cannot be predicted with certainty, the estimates summarized in this section were prepared with due diligence and with the benefit of experience from the SBC-Pacific Telesis merger.

A. Accelerate the Delivery of New Services

29. The merger of SBC and Ameritech will benefit consumers by facilitating the development and introduction of new services and packages of services. The merged company will be able to develop and introduce these new services and packages of services at lower cost and more rapidly than SBC and Ameritech could achieve without the merger. Consumers will benefit directly from these new service offerings.

30. The conclusion that consumers will benefit from the merger of SBC and Ameritech is supported by economic theory and by the experience of the merger of SBC and Pacific Telesis. Research and development has the characteristic of a public good, which means that, as a matter of economic theory, the results of an R&D program can be applied to almost any scale of operations without diluting its value. Thus, R&D performed by SBC can be used to benefit the operations of the merged company, as can R&D performed by Ameritech. Redundant R&D expenditures can be avoided and the remaining R&D delivers more "bang for the buck" because it benefits the total operations of the merged company. Similarly, the merger reduces the cost of research and development by permitting R&D expenditures to be amortized over a larger customer base.

31. A merger would raise economic concerns about effects on research and development only if the merger would substantially concentrate markets in which the parties are actual or potential

competitors. SBC and Ameritech presently do not compete in the provision of wireline services. We understand that SBC and Ameritech may be required to sell any overlapping cellular systems as part of the completion of the merger. Thus there is no risk that the merger would result in higher concentration in markets for existing wireline or wireless access or exchange services. For most other telecommunications services, such as Internet access, competition exists from a wide range of sources. These include, as discussed in Section II above, various forms of wireless technologies including satellite and microwave systems, and cable-based systems. These services can be provided by a large number of actual and potential competitors, ranging from small, specialized providers of dedicated access services to large IXCs that can provide a full range of access and switching services. Given the diversity of competition that can exist for these services, there is no reason to believe that the merger of SBC and Ameritech could have any adverse consequences for the rate of investment in research and development for new telecommunications services.

32. The benefits of the merger for research and development are not merely theoretical. The experience of the SBC merger with Pacific Telesis demonstrates that these economies are real. SBC and PacTel represented that their merger would deliver substantial efficiency gains as the merged company could exploit the knowledge base of each of the merger parties to improve the quality of existing services, introduce new services, and raise productivity. Experience since the merger indicates that these representations were accurate estimates of the merger benefits.

33. The merger will accelerate the introduction of new products and services to consumers by exploiting complementary research and testing activities and by allowing the merged firm to spread the risks and costs of R&D and product introduction over a larger customer base. In addition to the cost savings from the combination of R&D, there are synergies to be obtained by having experienced and talented researchers exchanging new ideas and approaches to technological problems. The combination of research talent allows the organization to tap the collective expertise and experience of the two companies, and thus encourages the development and adoption of new technologies. Furthermore, the larger market area enhances market experimentation and new

service introduction by providing more numerous and more diverse test markets.

34. As with the cost savings described above, the benefits of combining R&D and marketing to speed the development and introduction of new products are not likely to occur without the merger. The advantage of an integrated firm is that technical standards can be agreed upon quickly and enforced hierarchically. In a joint venture arrangement, rivalry, opportunism, and genuine disputes over the best standards could needlessly delay the development and introduction of new services.

35. An example of the likely benefits of the merger is the expected effect on the employment of Digital Subscriber Loop (DSL). DSL exploits unused bandwidth on standard phone lines without interfering with voice transmissions. DSL can be considered the second wave of products (the first wave being ISDN) targeted to the remote access market. Asymmetric DSL implies that transmission speed depends on the direction of data transmission.²⁰ Some of the advantages of DSL connections over ISDN and analog modems include (1) no need for call setup since the connection is always on, (2) no busy signals, and (3) the local loop bandwidth is not shared with other residential subscribers.

36. Both Ameritech and SBC have experience in developing DSL service. SBC is using its R&D subsidiary, Technology Resources, Inc. (TRI) to assist in the deployment of DSL technology.²¹ In late 1997, SBC began offering FasTrak DSL services under the Pacific Bell brand in San Francisco and under the Southwestern Bell brand in Austin, Texas. The first service offers 384 Kbps to and from a carrier central office. The second service works at 1.5 Mbps downstream and 384 Kbps upstream.²² SBC plans to make asymmetric DSL services available to approximately 4.4 million households and 650,000 business customers by the end of 1998. The cost of the

²⁰ For a more detailed discussion on the operation of DSL and its current impediments, see Joanna Makris, "DSL Services," *DATA COMMUNICATIONS*, April 21, 1998 at 38.

²¹ Kaplan Affidavit ¶ 20(c).

²² "SBC unveils two new DSL test markets," *ISDN NEWS*, Dec. 12, 1997.

services (including unlimited Internet access) will range from \$199 to \$339 per month.²³

37. Ameritech is also introducing DSL. In June 1998, Ameritech accelerated the deployment and enhanced the scalability of its newly announced DSL service. The new Subscriber Management System (SMS) will allow a broader population of business and consumer subscribers to enjoy the benefits of high-speed Internet access.²⁴ The SMS 1000 can aggregate as many as 4000 DSL virtual circuits or Frame Relay logical connections over high-speed links generating from multiple central offices (COs). Using a unique capability known as "multiple contexts", Ameritech can enable a single DSL connection to support multiple types of subscriber services such as multiple Internet Service Providers (ISPs).²⁵ This service provides only one example of the many that will likely surface in the near future.

38. As noted by Martin Kaplan, the combined company would realize efficiencies in the deployment of DSL services by consolidating testing, technical consulting, and the preparation of engineering design specifications using SBC's Technology Resources, Inc. subsidiary. These benefits can be obtained with little or no incremental cost because of the public good characteristic of the R&D already being performed at TRI. While the companies have not yet planned how to merge their R&D operations, it is virtually certain that there will be numerous other situations in which the combination of SBC and Ameritech will accelerate the pace of both introduction and commercialization.

B. The Merger Will Generate Significant Additional Efficiency Gains That Cannot Be Realized Otherwise

39. The merger of SBC and Ameritech will generate additional efficiency gains by exploiting

²³ "Bell Atlantic, SBC to toll out ADSL," *ISDN NEWS*, June 16, 1998.

²⁴ "DSL: Ameritech selects RedBack SMS 1000 for scalable support of broadband access service," *EDGE, ON & ABOUT AT&T*, June 15, 1998.

²⁵ *Id.*

economies of scale and scope. SBC estimates the total efficiency gains to be \$2.5 billion, of which \$778 million is from expected revenue synergies. Cost savings amount to \$1.43 billion, and the remainder arises from increased revenue (from increased penetration of value-added services) and cost savings in in-region long distance.²⁶ The increases in competition from alternative technologies ensure that a large share of the efficiencies generated by the merger will accrue to consumers.

40. The merger of SBC and Ameritech provides opportunities for the merging firms to reallocate and reorganize resources in ways that reduce costs while increasing or maintaining the quality of the services provided. The potential for more efficient resource utilization exists in a wide variety of areas. Among them are rationalizing repair and maintenance facilities over a combined firm, lower cost purchasing and the attainment of scale economies in administrative functions. In addition to efficiency improvements, quality improvements can be expected in many areas such as repair and maintenance and the more rapid introduction of new technologies and products, discussed above. These cost reductions and quality improvements either would not occur in the absence of the merger, or would occur more slowly and at higher cost. Experience with the SBC-Pacific Telesis merger reveals that these efficiencies are real and substantial.

41. The merger will benefit customers through a reduction in repair times, installation times, and increased efficiency in customer service. SBC estimates that the reduction in trouble reports and field dispatches alone will reduce costs by \$250 million, and will result in improved technician productivity and better customer service. Much of this improvement will result from combining the operations and facilities of the two separate firms, and from the application of best practices. As noted above, SBC has considerable experience bringing together the best practices of different companies to improve these areas to the benefit of consumers, while reducing costs.

42. The merger will also generate technical efficiencies in other operational areas. One area is

²⁶ Kaplan Affidavit ¶ 2,7,17,23, 27.

in provisioning and maintenance. The merger can bring about a reduction in trouble reports and field dispatches in Ameritech's territory, as well as improved technician productivity, through the adoption of best practices. In addition to better service, SBC estimates the resultant cost savings to be \$115 million.²⁷

43. SBC and Ameritech have over 3100 combined switches and 120 tandems.²⁸ The companies currently use two different methods of acquiring and maintaining switches, with Ameritech outsourcing its switch engineering functions and SBC performing these functions in-house. The merger would allow the combined entity to take advantage of scale economies in performing these functions, and to generate substantial cost savings in switch procurement because of its larger size. SBC estimates cost savings of \$45 million annually from combining these operations.²⁹ These savings would also carry over to the design and purchase of software upgrades for the switches to allow for new and improved services to be delivered by existing switching equipment.

44. As with switching, Ameritech also outsources billing and OSS while SBC companies maintain their own data systems. These functions are subject to large economies of scale, and the merger allows the parties to reduce costs by combining and standardizing these operations. SBC estimates these savings at \$227 million.³⁰

45. One of the biggest areas where economies of scale may result is in the area of purchasing. The combined entity will be a larger customer for vendors and will be better able to exploit economies of scale in the production of telecommunications equipment. One of the many examples available is the price that the combined entity would pay for cellular and PCS handsets. The

²⁷ Kaplan Affidavit ¶ 21(a).

²⁸ Kaplan Affidavit ¶ 21(b).

²⁹ Kaplan Affidavit ¶ 21(b).

³⁰ Kaplan Affidavit ¶ 20(b).

combined firm's larger scale would allow the combined entity to negotiate better contracts for these and other essential components. Given the competitive nature of the cellular business and the increasingly competitive nature of all telecommunications services, these savings would be expected to flow substantially to consumers. The scale economies in procurement would apply to many other areas as well. SBC estimates that the total procurement savings will amount to \$381 million.³¹ Another area where scale affects purchasing is in long distance, where the increased volume after the merger will allow the company to receive larger volume discounts for wholesale interexchange services.

46. Still another area where efficiencies can be expected is in the elimination of duplicative administrative functions, including headquarters functions (accounting, HR, etc.), reduction in the number of operations, repair, telemarketing, and collection centers, and the combination of marketing and product development functions. Savings in these areas are a result of scale economies in these operations. For instance, the two companies face many of the same legal issues and circumstances so that the increase in size due to the merger does not require an equivalent increase in the size of the legal department. The efficiencies resulting from this combination of factors show up as both lower costs and increased ability to quickly develop and introduce new products and technologies.

47. In addition to the benefits described earlier, the application of best practices allows for other operational savings as well in areas such as network design, operator services, etc. SBC estimates these savings to be \$153 million.³²

D. Consumer Benefits from Organizational Efficiencies and Synergies

48. In addition to the technical efficiencies and cost savings enumerated above, the merger

³¹ Kaplan Affidavit ¶ 20(a).

³² Kaplan Affidavit ¶ 23.

allows the combined firms to exploit certain synergies in their operations. These synergistic effects include the ability to develop and roll out new technologies faster and to more consumers.

49. Combining Ameritech and SBC will have a variety of synergistic effects that are separate from and in addition to the cost savings above. They arise from the overall benefits stemming from a larger entity that has the benefit of the combined expertise of the two companies encompassing a larger geographic area. Information or experience gained in one firm can be transferred or shared with the other. These kinds of benefits directly result from a merger of the units and incentives of the two firms.

50. A number of benefits accrue immediately upon merging. Products or services "owned" by one company can be introduced to customers of the other. Test marketing that is conducted in one area can now be spread over a larger roll out area, benefiting customers of both companies. However, this is more than just spreading the costs over a larger base. The availability of more test market areas and the larger market over which product costs can be recouped can help to make economical the introduction of services that otherwise would not be brought to market. It may also permit the introduction of services that have higher risk associated with them since they would have a greater likelihood of cost recovery.

E. Expanding the Adoption of Existing Services

51. Consumer access to existing services will be expanded by allowing the combined entity to use the best marketing practices of each merging partner and by the synergistic effects of combining their expertise in marketing. Combining market research and development efforts across firms allows better customer focus, lowers market research costs and allows the more effective use of its results.

52. SBC has had particular success in some areas and would be expected to transfer that success to Ameritech upon completion of the merger. Ameritech, also brings to the table specialized expertise and experience that will synergistically enhance the marketing and packaging of services.

One area the people at SBC point to where Ameritech is successful is Centrex. According to SBC, Ameritech is an industry leader in Centrex. SBC estimates that improved marketing and Ameritech's Centrex experience could increase sales by \$120 million.³³ It is important to note that these increased Centrex revenues come from making SBC and PacTel more competitive marketers of Centrex technology, which is in direct competition with other technologies such as PBX. Thus, applying Ameritech's know-how and best practices to SBC's Centrex business is strongly procompetitive. Further study may reveal other areas where application of Ameritech's best practices and know-how can be beneficially transferred to SBC and its customers.

53. SBC has extensively studied how it can apply its strengths and knowledge to Ameritech's product offerings. According to data supplied by SBC, in addition to the Centrex example above, the company can be expected to expand customer purchases in a number of areas, including the following.

- SBC has had particular success in the services covered by what are known as vertical features, such as call waiting, return call service, and voice mail. For example, vertical service revenues for SBC increased by approximately 20% in 1997 and 29% in 1996.³⁴
- Caller ID is another vertical service where SBC's marketing prowess may well yield increased market penetration. In its five-state territory, SBC's marketing efforts resulted in half of its residential customers subscribing to caller ID.³⁵ In Pacific Bell's territory, caller ID penetration has increased from 1% to 9% since the merger. SBC estimates that application of best practices and individual firm know-how across the broader organization will increase sales of vertical

³³ Kaplan Affidavit ¶ 14.

³⁴ SBC 10-K Filing Submitted to SEC, March 11, 1998.

³⁵ Anita Raghavan, Steven Lipin, and John J. Keller, "Growing Up: SBC Communications to Acquire Ameritech in a \$55 Billion Deal," *WALL STREET JOURNAL*, May 11, 1998, at A1.