

Tracking and Leveraging the Hidden Tech Population to Promote Economic Development and Build Social Capital

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INTRODUCTION: Hidden Tech and the Entrepreneur Clustering Phenomenon

One of the prevailing economic development maxims is that you need a critical mass of companies, or cluster, to create a business base big enough to boost the economy of a region.

Although the theory has played out in many parts of the country from Boston's Rt. 128 to the Silicon Valley of California and Austin, Texas, there are experts who now believe the cluster theory, itself, is played out. Joel Kotkin, author of *The New Geography* (Random House, 2001) was recently in New England's Knowledge Corridor (Hartford, Conn.-Springfield, Ma. region) talking about the "declustering" of those very, once hot technology locations, as well as urban centers.

He was also in the region to study a new phenomenon -- the so-called hidden tech population -- which offers a glimpse of where knowledge workers go when they leave traditional business clusters. Freed from organizations by the Internet/Web, often flush with cash from the sale of pricey urban homes, these virtual company entrepreneurs are flocking to locations throughout the United States that make great places to live. Rather than selecting a location based on the availability of employment, they are picking places that have both lifestyle appeal and already contain a population, or cluster, of like-minded entrepreneurs. Once there, they set up shop in homes or small offices often hidden from sight and from government statisticians, hence the term hidden tech.

These sorts of new hidden tech entrepreneur clusters are springing up everywhere from Wenatchee, Wash. to Bozeman, Mont. But one of the largest, and certainly most organized and studied is right here in the portion of New England's Knowledge Corridor centered around Amherst, Massachusetts.

Already, over 700 hidden tech entrepreneurs have joined the Hidden TEC affinity group of the Regional Technology Corporation since its founding in the spring of 2002. More and more recent arrivals talk about locating to the Pioneer Valley because they understood from word of mouth and media coverage that this region was attracting hidden tech entrepreneurs in significant enough numbers to form a cluster. For example, Steve Reynolds, a senior manager at AOL learned about this region through newspaper articles on the hidden tech movement, which convinced him there was a sufficient cluster of like-minded techies to provide "someone to talk to" off hours. He made the move to Amherst, Mass from Maryland in the summer of 2002, where he has been managing part of the AOL customer retention/marketing operation from his attic.

This report examines the advantages for a region of promoting development of entrepreneur networks that drill down to the virtual company level. The organization Hidden TEC has proved during its short lifespan that it's possible for a region to leverage the network's members for economic development purposes and to promote what Harvard professor Robert Putnam calls "social capital." In *BOWLING ALONE: The Collapse and Revival of American Community* (Simon & Schuster, 2000), Putnam defines social capital as "connections among individuals, social networks and the norms of reciprocity and trustworthiness that arise from them." He believes that informal social connections that build trust, safety and reciprocity are the foundation of economic development. Hidden TEC is one of those social/business networks.

Recognizing the need to create and back entrepreneur networks such as Hidden TEC throughout New England's Knowledge Corridor, Northeast Utilities has supported efforts to identify the hidden tech population in western Massachusetts. The next goal is to expand this effort into Connecticut and possibly the Berkshires as part of an ongoing program to grow and build entrepreneur networks that serve micro companies like hidden tech.

This paper reviews efforts made to quantify the hidden tech population since the winter of 2002; describes methodology both authors have evolved to help economic development directors, cities, towns, corporations and non-profit organizations locate hidden tech entrepreneurs in their geographic areas utilizing current national data resources; explores the evolution of the western Massachusetts organization Hidden TEC, which this author founded in the spring of 2002 to help support hidden tech entrepreneurs in western Massachusetts; looks at how the western Massachusetts region has helped serve this organization to boost hidden tech entrepreneur survival and concurrently, how Hidden TEC members are building social capital in western Massachusetts. Finally it offers a look at the national interest evolving around this movement.

Locating the Hidden Tech Population

In the winter of 2003 Northeast Utilities commissioned this author, principal of A - Z International Associates in Amherst, Ma., to conduct a follow-up to an earlier pilot study of 75 hidden tech companies entitled *HIDDEN TECH IN THE VALLEY: At The Cutting Edge of the Global Internet Economy* (Amy Zuckerman, Western Massachusetts Electric Company, fall of 2002. See www.hidden-tec.net to access the pilot study). As part of this project, Zuckerman also was asked to explore ways regional economic developers could back the hidden tech population, as well as leverage it to boost the regional economy and build social capital.

The first step to this process was locating hidden tech companies. For anyone familiar with data searches, it would be apparent that there is no one-step, easy method for locating the hidden tech population in national databases that report on small businesses. That's because the term-coined by this author didn't exist when the 2000 United States Census data was collected and has not yet been introduced into the Small Business Administration lexicon.

Moreover, most traditional data on employment comes from a survey of known businesses. Government statisticians will look primarily at mid-sized and large companies and often ignore small companies, let alone those so tiny as not to be apparent to the naked eye. As Census Bureau analyst Paul Zeisset put it in a report on nonemployers: "These very small businesses are excluded from most other business statistics, yet they form an important part of many industries." ("Sales By Nonemployer Business top \$580 Billion in 1997," U.S. Census Bureau, January 18, 2001.)

The only way definitively to locate a given hidden tech population in any community involves old-fashioned, grass roots organizing, surveys of pre-existing business organization membership lists, and surveys of college/university alumni bases. But with a little knowledge of this population, both Zuckerman and Mike Levin, Chief Policy Specialist for Economic Development at the Hartford, Conn.-based Northeast Utilities, have developed methodology that will provide regional planners, economic development directors, cities, towns, regional governments and the private sector a means of coming up with an approximate number of hidden tech companies in a given locale. To be able to parse out the hidden tech population from a number of various categories of employment in the 2000 Census or any other small business data sources requires knowing what the term hidden tech actually means and how hidden tech proprietors operate.

a. Hidden Tech Defined

A hidden tech company is synonymous with the virtual company as defined by economist George Gilder and made famous by management guru Tom Peters. This is an entrepreneurial enterprise operated by one or two principals in any given location. Support personnel and staff may be housed anywhere in the world and generally are subcontractors rather than full-time employees. Also, work is often carried out in alliance with other like-minded companies. Advanced technology -- particularly computers and the Internet -- is the tool that binds the company together, allowing information and data to flow throughout the potentially far-flung enterprise.

It's a misnomer to call hidden tech entrepreneurs freelancers or free agents. What matters when counting hidden tech companies is both the mind-set of the proprietor and his/her operating style. A hidden tech proprietor will say they are operating and building a business, not merely taking on projects for pay. Their operations are always small, yet their contacts and clients are often national or global and they may earn revenues to match.

Also, some telecommuters fit into the hidden tech category and some do not. If the telecommuter mainly works out of the home and utilizes advanced technology to carry on business, he/she may think more entrepreneurially than those who only use a home office on weekends. The same goes for those building a small business on the side while they work a day job. If they consider the side business to be something they're building for the future and are contemplating leaving their day job, they may fit into the hidden tech population. Neither of these nuances will be reflected in current government surveys. Here are some basic factors that define the mindset of the hidden tech proprietor:

- 1) He or she considers themselves operating a business rather than taking on work-for-hire projects only;
- 2) He or she has no desire to employ staff in-house or manage a large, in-house operation. The preference is to work alone, or with one or two others maximum, in a small-office setting, whether in a home, office suite or industrial park office;
- 3) When there is need for additional help, subcontractors are hired to handle the work or alliances are formed with other hidden tech companies;
- 4) He or she may not make technology, but are technologically savvy. They are aware that technology is a major business driver; a necessity for survival.

b. The WMECO Pilot Study

The one known study of hidden tech companies was the WMECO pilot study -- *HIDDEN TECH AND THE VALLEY: At the Cutting Edge of the Global Internet Economy*. The report was released in the fall of 2002. Most of the 75 hidden tech companies surveyed were located in the Five College Area of western Massachusetts, long an attraction for baby boomers worldwide. Many pilot study participants attended the prep schools in the region or one of the many colleges in the region. And their numbers may well be in the thousands. The Franklin County Chamber of Governments believes there are 5,000 self-employed individuals in that county, alone, many of whom depend on technology to run a business. (See section below on national databases).

These individuals appear fairly representative of hidden tech entrepreneurs this author has interviewed nationwide. They generally range from late 20s through their late 60s, are highly creative and energetic, knowledgeable and well-connected nationally and internationally. Many of them have relocated to this region over a 30-year period from all over the U.S. and sometimes

internationally. Ninety percent of the survey reported having lived in 16 of the U.S. states and three foreign countries -- Australia, Germany and Russia -- before moving to western Massachusetts.

The majority of this subset moved from large U.S. metropolitan areas with Boston and New York City being the most common. Just under half of this subset came from other parts of Massachusetts with Boston and suburban towns claiming 60 percent of that group. Other states with fairly high representation include California, Connecticut, Maryland, Texas, Michigan and Oregon. At least four came from similar college communities like Madison, Wisconsin and Ann Arbor, Michigan. Many volunteered that they have moved quite a bit throughout the U.S. before settling in the Valley, mainly living in urban centers or like-minded college communities and occasionally spending short times overseas.

Although it's impossible to extrapolate from such a tiny sample and relate it to a national trend, it's interesting to note that more than half of the Valley's hidden tech entrepreneurs relocated to this region from 1986 to the present. Anecdotal information from local realtors indicates that large numbers of virtual company proprietors have made inquiries about possible moves since 9/11 and that the influx of newcomers since then has been high. For example, the mortgage department of an Amherst, Ma. bank recently reported that 30 percent of new homes sales in the county surrounding the University of Massachusetts were to hidden tech proprietors between 2000 and 2003, coming from all over the United States.

Roughly a third of the survey sample came here for lifestyle reasons, which included cultural activities, desire for community and the physical environment. Just under 30 percent -- the next largest category -- reported following a spouse who had landed a job here. Other reasons for relocating included -- in descending order -- returning after attending college or prep school in the region; a job transfer; growing up and staying or returning; friends and relatives in the region; the proximity to major urban centers; and the quality of local schools.

And they represent a wide swathe of professions -- basically anything that can be developed and shipped readily from a home or small office setting. In western Massachusetts the most common business categories are:

- Software/hardware developers;
- E-commerce retailers;
- Web designers and hosting services;
- Management and organizational development consultants;
- Content providers;
- IT/trainers and strategists; and
- Marketing specialists.

The majority develop and sell a variety of products. Of those who create and mass market products, just under 30 percent sell software products of all kinds with Web-related applications and solutions being the most common. Web content and Web sites, books, manuals, booklets and content for all media, along with training courses, are commonly represented among product categories.

All of the sample provide services, or even a variety of services. The largest group -- 30 percent -- are involved in consulting and training that relates to sale of their software. Just under 25 percent of all respondents are involved in organizational/ management consulting and strategy both inside and outside the technology industry. The following categories garnered about 10 percent of the survey each: traditional and Web Marketing; IT/Telecomm Consulting/Strategies/Training; Content Editing/Writing; and Graphics/Web Design. And they are big on promoting research and

development. Slightly over half of those surveyed are involved in some form of research and development.

As noted above, these are highly educated knowledge workers. Almost everyone in the survey has at least a bachelor's degree and a number of those surveyed reporting holding master's level degrees and even doctorates. And like many baby boomers, they are equally comfortable in global settings as they are hanging out in a small, New England town. Most telling, when asked if they consider themselves a local, regional, national, or global company -- or any combination -- just over 25 percent of the sample and the largest subset reported being a global company only. Another quarter of the group only work nationally. Yet another quarter say only regionally, while only a tiny portion of the group limit their client base to the region.

Many hidden tech company owners arrived in the Valley with a worldwide client base, while others have developed contacts over the course of their years in this region. Many of these companies have cultivated regional, national and global client bases because they have not been able to find work or clients locally. Others are happy to work outside the region while living here.

In 2002, the survey group was conducting projects for clients from coast to coast situated in 23 -- or just under half -- of the United States, as well as the District of Columbia. Just about 10 percent have clients in major technology centers like the Silicon Valley. Clients may be other small businesses, or companies and institutions as large as Boeing, the British Standards Institute (BSI), Thomson Publishing or The Vatican.

These small, hidden tech companies reported maintaining alliances with other like businesses. Respondents maintain alliance partnerships in 15 states, as well as the District of Columbia, and at least two foreign countries. And just about 30 percent of those surveyed hire support personnel nationally. Mainly subcontractors, these individuals are located in 13 U.S. states. About 10 percent of the survey also hires subcontractors outside the Valley region, but located in other parts of Massachusetts.

Despite their mavericky mindset this is a very settled population. Just over 85 percent reported owning their own home. Most were sole proprietors, but a surprising 35 percent were incorporated and expressed a desire to build a major company if finances and circumstances allowed. Although most were working out of their homes at the time of the survey, 25 percent said they rent small office space in strip malls, commercial office buildings or industrial parks.

Their attitudes towards growth took many in the region by surprise who had assumed -- quite wrongly -- that hidden tech entrepreneurs would be anti-growth. Nothing could be further from the truth. The majority of respondents -- almost 70 percent -- favored growing their company or business. Only 20 percent are opposed to growth, saying they are not seeking to expand either employees or office space.

Those who favor growth often fit into two basic categories -- what Jon Reed, principal of Northampton-based eCruiting Alternatives, Inc. and co-chair of the Hidden TEC organization calls the "lifestyle entrepreneur versus the Bill Gates entrepreneur." In general, lifestyle entrepreneurs want to build client base and revenue stream, but are loathe to add on employees or to move into large office settings. They manage growth through building alliances with other like-minded entrepreneurs, by hiring a fluctuating number of subcontractors or even turning down business they don't want to handle. The Bill Gates entrepreneur, on the other hand, would love to grow a business as successful as Microsoft and even as large.

This earlier study indicated that just over 40 percent of the pro-growth subset fit into the lifestyle entrepreneur category. They want to expand their client base and revenue stream without adding employees or enlarging office space. Just about 40 percent of that subset are the so-called Bill Gates entrepreneurs who want to sell more products and services. They espouse a traditional growth projectory that would include additional employees and larger office space.

These divergent attitudes are reflected in answers to the question: Are you keeping your company purposely small? To which about 35 percent of the total sample respond affirmatively. Note that they are not necessarily averse to growing revenues or clients, or even taking on a few employees or subcontractors. Mainly, they desire a hands-on approach with few if any employees, preferring to work with subcontractors or part-timers who operate out of another location. Many respondents want to build business, but not greatly expand numbers of employees or move into commercial space.

c. Structural Changes in the U.S. Economy as Key to National Data Base Searches

It's important to view the hidden tech phenomenon as part of a much larger, accelerating national economic trend towards self-employment, often in a home-based setting. As Bruce D. Phillips of the National Federation of Independent Businesses writes: ". . . A host of factors seems to be pushing individuals into business ownership: a lack of security in large corporations, the declining price of information technology products, the stresses caused by time pressures, the desire for greater control over one's life, and the relatively cheap and easy market expansion made possible by the Internet." (*Home-Based Firms, E-Commerce, and High-Technology Small Firms: Are They Related?* Bruce D. Phillips, "Economic Development Quarterly," February 2002.)

As the role of small businesses becomes even more critical to the U.S. economy, it is important to gather information on subsets of this sector: the micro businesses, self-employed workers or home-based companies that have been largely unexamined and from which the hidden tech population is drawn and, which to a large degree, form overlapping universes. It's now possible to explore these various universes -- the sources for data on the hidden tech phenomenon - - through government reports and surveys. The following are key categories to consider:

- ***Self-Employed Workers:*** The 2000 Census reports that self-employed workers make up 8.6 million or 6.6 percent of the U.S. workforce. These estimates are understated because the 2000 Census counts as self-employed only those people in the "own not incorporated business" category. But other reports indicate that a sizable share of self-employed are incorporated. Also, a Small Business Administration (SBA) report found 10.5 million self-employed persons in 2000, or 7.8 percent of the civilian labor force. Self-employment represented the primary occupation of the individuals surveyed. This total was up 14.7 percent compared to 9.2 million self-employed in 1998. Growth in the incorporated self-employed accounted for almost all of the overall increase reported between 1998 and 2000. (A pilot study of the western Massachusetts hidden tech population in 2002 indicated that about a third operated as incorporated companies.)

Moreover, the census doesn't reflect demographic shifts taking place nationally, which Joel Kotkin outlines in his book and has supplemented in more recent forays across the U.S. this year. They indicate continued migration from urban centers to lifestyle cities, towns and rural regions. For example, in western Massachusetts, realtors, mortgage officers and school districts are reporting fairly significant influxes of newcomers since the year 2000, many of whom appear to operate hidden tech companies. Those numbers would not be reflected in the most recent census.

The SBA report, *Self-Employment and Computer Usage* (April 2003), offers another glimpse into how the self-employed worker category survives outside organizations. They use advanced technology as a key tool to earn money. Access to the Internet by the self-employed grew

50.4 percent between 1998 and 2000. This information is backed up by data from the Census Bureau's *Current Population Survey, Internet and Computer Use Supplements* from 1998 and 2000.

- **Nonemployers:** Representing almost three-quarters of all businesses in the U.S., businesses with no paid employees totaled 17 million in 2001, up 2.7% from 16.5 million in 2000 and 10.3% from 15.4 million in 1997. The typical nonemployer business was very small, and many were not the primary source of income for their owners. Nonemployers are represented in almost all industries but concentrated in four sectors: real estate; construction; professional, scientific and technical services; and retail trade.

It's not hard to see how hidden tech proprietors fit this category. Hidden tech entrepreneurs eschew hiring full-time employees because they are expensive, create the demand to float a certain amount of overhead and create an accounting and tax burden. Many hidden tech operations would be classified under professional and business services.

Sales or receipts from nonemployers totaled \$730 billion in 2001, up from \$586 billion in 1997. Although only 3 percent of the total business output, growth in nonemployer establishments counters the declines in the manufacturing sector and offers an alternative to traditional economic development initiatives such as incentive-laden recruitment of out-of-state firms or creating/filling industrial parks.

In 2001, Massachusetts had 412,941 nonemployer establishments producing \$20.1 billion in receipts. There were 83,723 nonemployers classified under professional, scientific, and technical services producing \$3.5 billion in receipts or \$41,626 per establishment. Connecticut had 220,751 nonemployer establishments in 2001 with \$11.8 billion in receipts. There were 39,577 professional, scientific, and technical services establishments with \$1.9 billion in receipts or \$48,121 per establishment. Nationwide, there were 2.4 million professional, scientific, and technical services establishments with receipts of \$91.3 billion or \$37,328 per establishment in 2001.

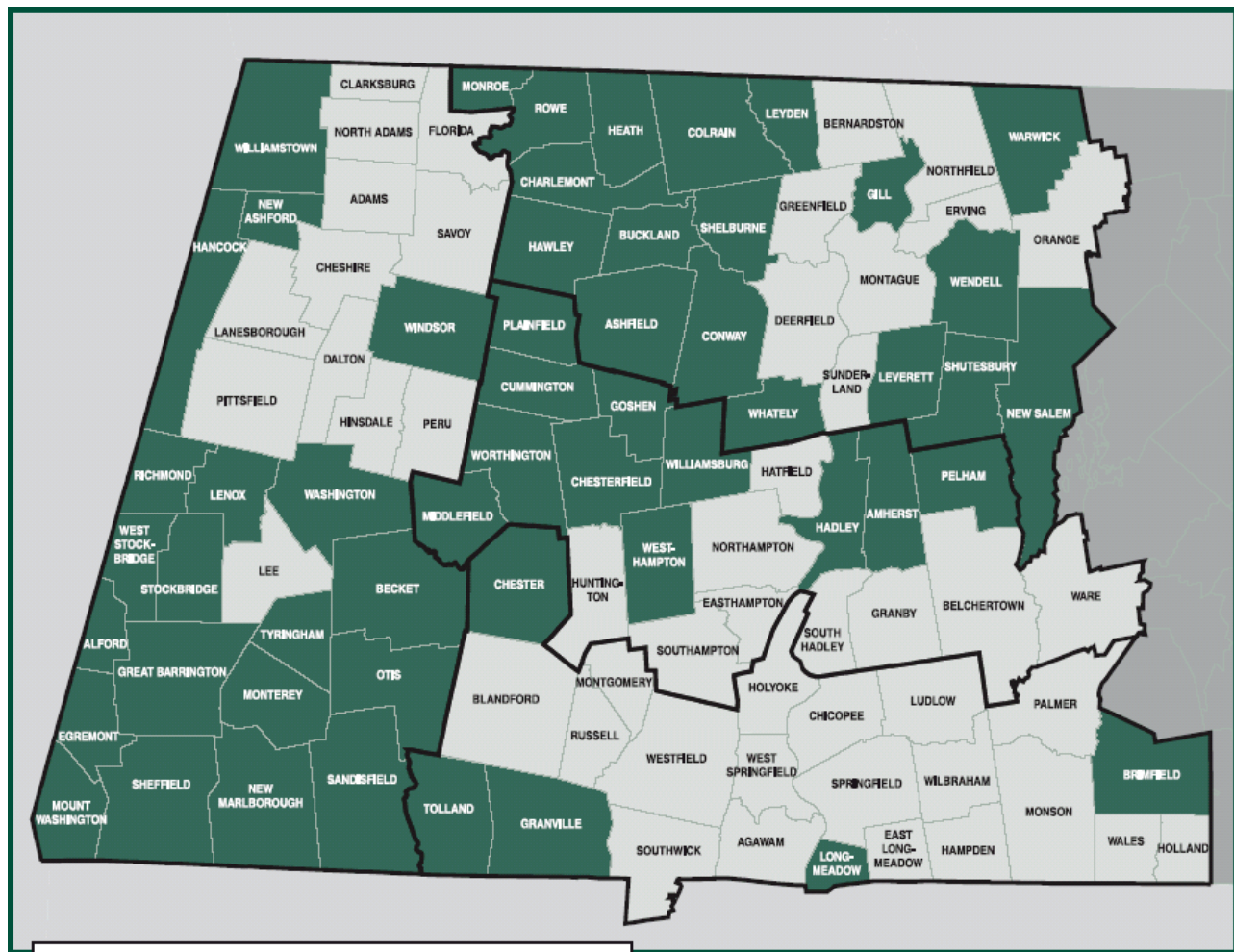
- **Home-based Workers/Companies:** Yet another category to search for in national databases is home-based companies. Decennial Census commuting to work data show broad fluctuations since 1960. In 1960 almost 4.7 million respondents worked at home, but this total dropped substantially in 1970 and 1980, bottoming out at 2.2 million in 1980. The Bureau attributes the drop to a reduction in the number of family farms and the consolidation of formerly home-based professions like doctors into group practices. At any rate the number working from home rebounded to 3.4 million in 1990 and grew again in 2000 to 4.2 million. Like the count of self-employed in the 2000 Census, this number is probably an understatement, as the Survey of Income and Program Participation (SIIP) counted 6.4 million exclusively home workers in 1997. About 30 percent of the home workers in the SIIP were in professional services industries, again a likely pool for hidden tech companies.


Although no formal study has been conducted of western Massachusetts farmers, an informal poll of farmers belonging to a regional booster organization indicates that 75 percent are currently selling products via the Web. This is yet another indication that data that looks at self-employed, particularly agricultural workers, may be outdated.

In 1997, according to Bruce Phillips, about 52 percent of all business tax returns represented activities operated in a home-based setting, producing \$325 billion in receipts or 10 percent of the output of the small business sector. There were 11 million home-based businesses in 2000, up from 9.2 million in 1997. Phillips found that "many people use the home to supplement a primary income, but about a third of home-based business owners work full-time in their home offices. I believe we are seeing a new paradigm for entrepreneurship, in which myriad entrepreneurs begin and remain at home." (Phillips, op sic)

d. Regional Variations in the Hidden Tech Population

The following chart illustrates how these categories play out on a national and regional basis. The data demonstrate great geographic variation in potential hot spots of hidden tech workers. In western Massachusetts, the percent of individuals who either work at home or who are self-employed, the two large, overlapping pools from which hidden tech workers are drawn, is much larger in rural Berkshire and Franklin Counties than in Hampden County, where most of the region's bigger cities are located. Even within the counties there is further variation that can help researchers pinpoint where the hidden tech population appears to be flourishing. (See map.) The concentration of this group of workers in these towns and counties creates an opportunity for officials to leverage them for both economic development and to promote social capital, both of which may have been lagging in these areas. (The social capital benefit is explored further in the rest of this report.)



 Indicates town having at least 5% of its workforce who "worked at home" or 10% who were self-employed (in own not incorporated business), or both, according to the 2000 Census. These levels are 50% greater than the U.S. averages.

Source: U.S. Census Bureau, Table DP-1, 2000.

Other sources of information on the western Massachusetts Hidden Tech population include the following:

- Business/networking organizations and regional colleges:*** A stab was made at locating and quantifying additional hidden tech companies through the membership lists of a smattering of related business organizations, chambers of commerce and the alumni bases of regional colleges in the western Massachusetts section of New England's Knowledge Corridor. By the spring of 2003 approximately 1,500 hidden tech companies were determined to be located throughout in this area—a number that jumped by almost 400 by this writing as the Hidden TEC organization's membership list doubled over that period from 375 to over 700. Right now, there are close to 2,000 known hidden tech companies in this area—an approximate number that takes into consideration some overlap between organizations. Here's the breakout:

• Hidden TEC Organization	700 +
• National Writer's Union	200
• Greenfield Community College	133

<ul style="list-style-type: none"> • alumni based in MA, • CT, VT or NH 	
• Franklin County Chamber	145
• Shutesbury Broadband Group	70
<ul style="list-style-type: none"> • Springfield Technical Community • College self-employed alumni • based in CT and MA 	108
<ul style="list-style-type: none"> • Holyoke Community College • self-employed alumni • based in MA, CT, NH or VT 	280
• Company of Friends organization	200
TOTAL:	ca. 2000

- ***Mortgage/Realtor Input:*** The A - Z International team also conducted interviews and sought data from a number of regional realtors and mortgage officers. Although this research was quite shallow, it's interesting to note that each year -- 2000, 2001 and 2002 -- roughly a third or more of all out-of-region home purchases were to hidden tech type entrepreneurs, according to the records of one Amherst-based bank serving Hampshire County towns, including Amherst, Northampton, Belchertown, Shutesbury, Leverett and Pelham. Many newcomers came from New York state and Massachusetts, but there were many states and even countries represented. (See appendix note 1.)

- ***Fledgling Connecticut University-Based Research:*** In preparation for an NU/Wesleyan hidden tech event, this author has spent some time digging into the university's alumni data base to create the basis of a possible alumni hidden tech network. This work indicates that hidden tech entrepreneurs are located just about anywhere in the United States -- including urban centers-where they can find good coffee, congenial company and the right bookstores within two hours of a decent airport-the sort of hip locales Brooks outlines in *Bobo's in Paradise*.

As part of the Wesleyan effort, some analysis was conducted on what types of industries and/or occupations would most likely be conducted in a home or small-office setting, certainly not large-scale manufacturing. But there are any number of skills from writing to analysis, engineering design, graphics, accounting to software development and more that don't require more than a wired room and PC, coupled with the right software and Internet connection, to get people up and running. As long as there is phone service, high-speed Internet access (preferable) and decent road and airport connections, any number of occupations can be transferred to lifestyle regions, as the diverse population of Hidden TEC and the Wesleyan alumni base has proven. (See appendix for information on alumni databases.)

Supporting the Hidden Tech Population through Entrepreneur Networks

In the fall of 2001, just following the 9/11 tragedy, this author conceived of the idea to write a cover story on the hidden population for the *Boston Globe Magazine*. During the writing, it became apparent that the small, often home-based virtual company was booming in the Pioneer Valley portion of western Massachusetts. But there was no existing organization catering to hidden tech entrepreneur needs at that time. Although they have subsequently become major boosters of

the Hidden TEC organization, local chambers of commerce in this region were not geared to meet the needs of small office or home-based businesses with regional, national and global outreach.

But there was one fledgling organization -- the Regional Technology Alliance (now the Regional Technology Corporation) -- that offered the possibility to link hidden tech entrepreneurs first with local and regional companies, and in time with national and even global businesses. By the winter of 2002, the RTA was starting to draw out hundreds of local companies -- mainly from the Information Technology (IT), plastics and biomedical arenas -- into a loose alliance of entrepreneur networks. The initial effort was backed a National Science Foundation (NSF) grant that University of Massachusetts officials had procured around 2000.

In fact, the RTA -- particularly its Technology Enterprise Council (TEC) network of IT/telecommunication companies -- had many hidden tech members. However, no one had defined them in quite this manner or offered to provide them specific services geared to the needs of virtual company proprietors. Being a hidden tech entrepreneur, this author well understood the pressures of working in isolation in a far-flung community with scarce business resources and other pressures, including being forced to market beyond the region, managing technology without tech support and, most importantly, the huge pressures of making a living in a very weak economy. It was quickly evident that linking hidden tech companies with wider entrepreneur networks would be a major boon to them. The linkage would help generate business, beat isolation and promote connections to resources and institutions throughout a community that spans at least 50-square miles.

Thanks to the support of a number of RTA, university and local economic development officials (see credits), the Hidden TEC affinity group of TEC was officially launched on May 7, 2002 at the offices of Avaquest in Amherst, Ma., a now defunct Web services business. The first mailing list was collected in the fall of 2001 from a loosely knit group of the author's friends and contacts and was supplemented with the Christmas party mailing list of Nate Treloar, then Avaquest president. It included about 50 techies, management consultants, public relations and marketing companies and electronic commerce retailers all working in a hidden tech/virtual company fashion. About 75 people poured into the tiny Avaquest headquarters that night in a second floor office suite so hidden from view that a TV crew missed the location entirely. Some came from as far as Connecticut to the south, the Berkshires to the west, and Worcester County to the east, propelled by word-of-mouth relay that a very new business networking organization was being born.

The brief history of the Hidden TEC organization -- now about 18 months old -- could well make up a chapter from Robert Putnam's just-released book *BETTER TOGETHER: Restoring the American Community* (with Lewis Feldstein, Reed Business Information, 2003), which explores many examples of successful community-building across the United States. From a loosely knit group of friends in the fall of 2001, Hidden TEC has grown to well over 700 tech and other professionals. Hidden TEC members live and work along the Rt. 91 Corridor and beyond and regularly attend programs and events sponsored by the Hidden TEC affinity Group, which is part of the larger Technology Enterprise Council (TEC). TEC is an affiliated network of the Regional Technology Corporation. Over the months, hidden tech proprietors from as far as Maryland and Florida have attended meetings as part of the search for work in New England's Knowledge Corridor. Also, this author has heard from hidden techies nationwide, including the Silicon Valley, who say they are considering relocating here because such an entrepreneur network exists as part of the larger RTC.

In general, Hidden TEC members fall into the following broad market categories: PR/Marketing/Newsletters; Content; E-commerce services/Retailers; Hardware/Software Developers; Web Design/Hosting, and Management Consulting/IT Training. Everyone from

jewelry designers to photographers, software developers to marketing specialists attend meetings. What they have in common is a desire to operate small, lean but globally potent companies without cramping lifestyle choices. All use technology to drive their businesses.

Many talented individuals have joined this author to develop this evolving volunteer organization. Ed Mangiaratti, Jon Reed, Tom Warger, Rich Roth, Janus Ternullo, David Washburn, Lou Davis and Bruce O'Leary served on the original steering committee. Jon, who operates a technology content packaging company in Northampton and has expertise in mediation, has since become Hidden TEC co-chair and dispute mediator. Rich both represents Hidden TEC to the larger TEC board and also heads up all online efforts. This author, Reed and Roth serve as the Hidden TEC Advisory Committee, which handles ongoing issues in between steering committee meetings.

Over the course of the year the steering committee was lucky to grow with the support of Suzanne McGee, Silvana Gravini, Claudia Gere, Jeff Lander, Joan Linden and Maggie Haigis, who have added expertise in Web design and print advertising design, public relations, marketing and programming. And in recent months, the organization has been fortunate to gain the support of Lewis Rudolph, a nationally respected expert in philanthropy and former United Way official, to help develop policy that will match the Hidden TEC mentality and operating style.

From the get-go there were really two Hidden TEC organizations: the traditional "ground" organization that schedules face-to-face networking meetings and the cyberspace organization that can serve as many hidden techies as technology allows. It was Roth, a nationally prominent Web data expert based in Greenfield, Ma., who took the original email list of about 90 names and turned it into an email discussion list that then linked all who joined 24/7. He created the first Hidden TEC Web site at www.hidden-tec.net and an announcement list for events, and in doing so boosted Hidden TEC into cyberspace.

The introduction of 24/7 discussion list has created provocative opportunities to both serve the Hidden TEC organization, build community, and to link members to entrepreneurs both here and abroad, as well as develop social capital -- all accomplished with almost no expenditures except sweat equity. At this writing, Northampton, Ma.-based Web designer Silvana Gravini has developed a whole new professional look for the Hidden TEC Web site, which was launched in November of 2003. Eventually, it will include many interactive features to allow members and outsiders, alike, to promote their products and services. The vision is to create interactive chat groups that allow for sector-specific Web discussions, as well as eventually embed some form of match-making software that will allow hidden tech entrepreneurs to create business alliances, seek clients and generally boost revenues with like-minded companies worldwide.

Rather than charge for membership to Hidden TEC -- the old economy organizational model -- the steering committee has agreed to keep entry to the cyberspace organization free in order to create as large a business opportunity pool as computer servers can handle. Monies generated through paid advertising and sponsorships are expected to help maintain the site and provide income to the organization.

Along with the Web efforts, a public relations/programming committee headed by this author and Suzanne McGee of McGee Public Relations in Sunderland, Ma., has been driving many ongoing programs that allow Hidden TEC members to meet in person. Being able to talk face-to-face and interact with other people is recognized among Hidden TEC members as one of the most important functions the organization can offer. Cyberspace provides tremendous networking, educational, support and business-building opportunities, but it is no substitute for human contact.

The following sections explore how Hidden TEC programming, coupled with the Web site, are also playing a major role in promoting both economic development and the building of social capital.

Leveraging the Hidden TEC Organization to Promote Economic Development

It's not news that American manufacturing is on the decline. This trend has had a major impact on the western Massachusetts and Connecticut economies, which were traditionally manufacturing based. One of the exceptions is the so-called Five College region where education has long been a prime industry sector. In the Pioneer Valley of western Massachusetts, for example, regional planner Tim Brennan reports that there are only 10 manufacturing companies with 1,000 employees or more remaining in the entire region. He suspects that in some rural communities, particularly those outlined in the hidden tech population map, hidden tech entrepreneurs may be driving local economies.

The need to develop entrepreneur networks to bolster economic development throughout western Massachusetts has been well recognized since the late 1990s when the RTA commissioned the Battelle Memorial Institute to conduct a study on how to boost business in the region. The report surprised no one in the economic development community when it recommended creating entrepreneur networks to connect far-flung small businesses known to be a growing economic base in the region by that time. Writing in a foreword to *Innovation U-New University Roles in a Knowledge Economy* (2002, Southern Growth Council), Walter Plosila, Battelle Vice President vice president, writes: "The need for knowledge workers with skills to develop and produce value-added products dramatically changes labor and talent requirements. Workers can no longer be considered commodities that are easy to find and replace. Business capital involves fewer loan and debt instruments, and more equity, including seed and venture capital sources. Collaboration across and within sectors -- private, public, higher education, non-profit --requires more networking and relationship building."

The 2002 WMECO pilot study confirmed the Battelle findings, but from a micro, virtual company perspective that Battelle researchers missed. Hidden techies listed networking opportunities as key to their business survival, which in the minds of RTA, UMass, WMECO, NU and regional planners only increased the importance of building the Hidden TEC organization. This author, with backing of the steering committee, solicited help from many institutions in western Massachusetts. The Pioneer Valley Planning Commission, of which Brennan is executive director; the RTA and now the RTC (today an alliance partner of the Western Massachusetts Economic Development Council or EDC based in downtown Springfield, Ma.); WMECO/NU; UMass; STCC; community colleges; the Five Colleges (UMass, Hampshire College, Mt. Holyoke, Smith and Amherst College), plus the Five College organization; local Chambers of Commerce in Amherst, Greenfield and Northampton, and other groups have provided support to the fledgling Hidden TEC organization in the form of advice and counsel, meeting space, and some financial backup for food, chairs, tables and other sundries to assist with events. The Amherst Area Chamber of Commerce even created its own version of Hidden TEC for its members to provide business support for technology-based companies.

But it was always this author's intent -- believing in the old dictum that "no man is an island" -- that the region should leverage the Hidden TEC membership to both promote economic development and build social capital. That opportunity quickly arose by the summer of 2002 when the membership reached the critical mass of mass of about 200-plus, enough people to draw a group to gatherings, and to offer the sort of support and assistance to a wide variety of programs and community projects.

There seems to be almost no limit to ways this group can be utilized for both purposes. After all, this is a population of highly educated, talented and often socially concerned knowledge workers who have been relocating to the region since the 1960s from all over the U.S. and the

world. As the WMECO 2002 pilot study indicates, many hidden tech entrepreneurs come here with enormous national or even global experience and some are even recognized world experts in their individual fields. They offer the region strategic connections to the global economy and global community of interlocking non-profits, non-government organizations, government agencies and corporations.

The following is a look at the variety of ways western Massachusetts and other portions of New England's Knowledge Corridor, as well as the Berkshires and Worcester County, is benefiting from this population:

- **Financial Impact:** The 2002 WMECO pilot study contains some preliminary data on the sorts of monies -- in the millions -- hidden tech proprietors spend in the region on retail products, service professionals, homes, etc. This is a shallow study of only 75 hidden tech entrepreneurs, but it indicates that this population does contribute substantially to the regional economy. A wider study would be required to determine more exact amounts. But when figures of \$3 million to \$10 million are multiplied by another 600-plus entrepreneurs, it's not hard to see that the hidden tech population's financial contribution is potentially quite significant.
- **Housing Market:** Recent articles in the *Daily Hampshire Gazette* (Northampton, Ma. daily) and affiliated *Amherst Bulletin* reveal that this population has had an impact on the housing market, both single-family and condominiums, at least in Hampshire County. In the summer of 2003, *Gazette/Bulletin* reporter Nick Grabbe wrote that housing prices in Amherst, for example, had risen 16 percent since the same period in 2002 despite major layoffs at UMA. ("Real Estate Prices Unfazed by Layoffs," page 1, *Amherst Bulletin*, July 25, 2003.) This was the first time in recent history, he wrote, that the local housing market had grown, not dipped, during a period of severe budget cuts at the university, which is the prime "industry" in Amherst. Local realtors interviewed for the article reported an influx of outsiders from mainly urban areas who stated they were setting up home-based, technology-supported companies as a major reason for the continued rise in housing prices. And in a second piece published several months later, Grabbe wrote that the influx of these same sorts of newcomers (what this author calls hidden tech entrepreneurs), coupled with an influx of retirees, was also driving condominium prices in Amherst sky-high. ("Condo Prices Skyrocket," page 1, *Amherst Bulletin*, Sept. 12, 2003.)
- **Cyberspace Linkages:** Not only has Roth's effort helped connect hidden tech entrepreneurs throughout New England's Knowledge Corridor and beyond, but it is providing free business support to hidden tech proprietors. Over the months, discussions have ranged from hard-core techie chat about open source software and wireless communication, to requests for movers, support personnel, information on health insurance and job postings for hire for companies and institutions regionally and beyond, to name a few examples (see *discussion list archives at www.hidden-tec.net*). As it knows no bounds and is extremely inexpensive to access, this tool has proven to be a powerful way to promote entrepreneur networking across local, regional, national and global lines, and is being explored to develop trade linkages between rural and urban areas (see final section).
- **A Source for Economic and Marketing Information:** The cyberspace organization is also proving to be a potent economic development tool for local institutions as information can be gathered in surveys or polls quickly from hundreds of people with little effort. For example, the Springfield Technical Community College (STCC) needed marketing advice on its video conferencing center in the summer of 2003 and at least 25 to 30 hidden tech companies replied to this request with thoughts and recommendations that Tom Goodrow, STCC Vice President of

Economic and Business Development, reportedly found very useful. This author has often turned to "the list," as it is called among hidden techies, to gather information for articles, books and reports that promote research and projects that relate to the hidden tech population.

- ***Building Rehab and Alternative Uses:*** A number of developers and some city officials have approached Hidden TEC to conduct dialogues and focus groups with members about alternative uses for their buildings. For example, on Feb. 3, 2003, over 55 Hidden TEC members met with Teri Anderson, Economic Development Coordinator for the city of Northampton, city councilors, business leaders and regional planner Tim Brennan, in a special dialogue about ways the city and region can help Hidden TEC. Conversely, Hidden TEC companies talked about way they could serve the region. Many ideas were generated about rehab and reuse of the former Northampton State Hospital, which ranged from traditional incubator space to developing specialized business centers and shared offices geared to the financial requirements and specialized work needs of the hidden tech population.
- ***A Ready Talent and Labor Pool:*** Companies within and without the Hidden TEC/RTC network have started posting want ads to the Hidden TEC group. These include larger regional companies such as Northampton-based Gravity Switch and Springfield-based Court Square Data. Hidden TEC entrepreneurs report many instances of working together as alliance partners, hiring each other as subcontractors and generally boosting business for their companies.

Geoff Little, a well-known and respected Springfield area consultant to regional institutions and telecommunications expert, has been working with this author to develop a skills survey of hidden tech and RTC companies that will provide regional data on knowledge worker skills. It's our belief that RTC and affiliate networks -- including Hidden TEC -- and the large companies in the region provide ready sources of technology, biotech, management, public relations/marketing and other management-level skills that aren't being counted in government surveys. For this reason, western Massachusetts and other portions of New England's Knowledge Corridor are losing out to other parts of the country in the effort to attract "name" new economy companies. As Little notes:

"Often overlooked in established technology regions is the substructure of professional talent that has developed to support the technology businesses. These individuals or small professional service companies provide expertise in key areas including research, planning, competitive market analysis, financing, legal and regulatory issues and public relations. Their expertise aligns and evolves with the needs of the established industries they serve. In a region that has not yet reached a critical mass of technology industries or a technology cluster, this substructure of professionals is not well established.

"However, this does not mean that the required talent is not present. The hidden tech population living and working throughout New England's Knowledge Corridor, particularly the Pioneer Valley region of Western Massachusetts, is an untapped resource of talent. These hidden tech professionals are currently applying their skills at the highest level in some of the most respected companies in the world attending to those companies' national and international business. Tapping this talent in support of local technology industries will address both their immediate and longer term needs. These professionals will also serve as the core of the region's developing substructure of professional service providers. The best resources are often local," he said.

- ***Regional Planning:*** After the launch of the 2002 WMECO report, presentations of findings were conducted at the regional Plan for Progress session at the West Springfield headquarters of the Pioneer Valley Planning Commission, the Franklin County Area Chamber of Commerce, the

Amherst Chamber of Commerce, the Northampton Dialogue with Hidden TEC members, and Holyoke Community College. Thanks, in part, to interest that the report spawned in the hidden tech movement, this population has been incorporated in the future "Plan for Progress" in this region, according to Brennan.

Throughout 2003, this author also has met with regional planners in Montague, Ma., the Franklin County Chamber of Commerce and Franklin County Council of Governments about ways to leverage the Hidden TEC membership for regional benefit. Of particular concern is working out ways to better connect populations in this most northern part of the Corridor through the Web and with improved Internet access.

- ***Business Networking and Education:*** Programs designed to both promote business networking, impart information about regional services, boost local company profiles, beat isolation and generally educate hidden tech proprietors, have taken place on average every six weeks since the first program in May of 2002. These programs not only connect the hidden tech population with each other, but with the larger RTC networks to help boost business opportunities.

But the vision doesn't stop with strategic business networking. Programs have been strategically designed and placed to help develop alliances between the Hidden TEC organization and local, regional and federal government officials, real estate developers, colleges and universities, and regional cultural institutions, for example, in a concerted effort to build social capital (see next section). Throughout Hidden TEC's brief history efforts also have been made to hold meetings throughout the Pioneer Valley in key cities and towns including Greenfield, Amherst, Northampton, Springfield and Palmer. The concern is to serve as wide a population as possible while still keeping drive time within an hour for most attendees. (See success stories in the appendix.)

The following are some examples of past Hidden TEC programs that were intended to boost regional economic development by either supporting hidden tech proprietors, or leveraging their talent to assist those driving the local economy while connecting hidden tech entrepreneurs to local institutions as a means of developing social capital:

- **NETWORKING:** May 7, 2002: Over 60 people attended the Hidden TEC kick-off at the offices of Avaquest on Rt. 116 in Amherst.
- **BUSINESS NETWORKING:** June 25, 2002: Sixty-plus people gathered for a network development event at the Calvin Theatre in Northampton. The groundwork for future Hidden TEC events and an approach to developing the organization was laid down that evening. Developing a way to network both in person and virtually was the key message.
- **BUSINESS NETWORKING:** September 23, 2002: Fifty-plus people enjoyed a structured networking event at Tortus Technologies' spacious offices in West Springfield. People selected areas of core market interest and were able to meet while munching on hors d'oeuvres. A mid-way switch allowed for more mingling.
- **BUSINESS NETWORKING:** December 4, 2002: Skilled facilitator Ingrid Bredenberg, chairwoman of the Company of Friends organization and a Montague-based management consultant, brought a group of 45 Hidden TEC members through a "Super Snap Turbo-Charged" networking session at the Jones Library in Amherst. Her skilled approach was reminiscent of musical chairs with a business twist. It was a fun night and everyone said they went away with useful contacts.

- **EDUCATIONAL/BUSINESS NETWORKING:** March 25, 2003: Greenfield Community College's downtown Greenfield meeting rooms provided the setting for an interactive session on managing growth. The program was developed and led by this author and Amherst, Ma.-based management consultant, Duane Dale.
- **EDUCATIONAL/BUSINESS NETWORKING:** Monday, May 5: Much of the Springfield Enterprise Center on the campus of the Springfield Technical Community College (STCC) was turned into a information fair and party scene to honor Hidden TEC's first year. Tours were held of the center, its video conferencing facilities and incubator space. STCC President Andrew Scibelli and many VIPs were on hand to cheer Hidden TEC's first year accomplishments and offer best wishes for the future.
- **ECONOMIC DEVELOPMENT/BUSINESS NETWORKING:** Monday, June 16: The Palmer Technology Park, technically located in Three Rivers, hosted Hidden TEC for a tour of its 300,000-square-feet of office and industrial space. A short focus group was conducted to aid the developers with suggestions for creative use of the space. Michael Vito, Sen. John Kerry's chief western Massachusetts aide, addressed the gathering about ways to access Kerry's office for business assistance. And Delore Zimmerman, a nationally recognized economic development expert and partner to author Joel Kotkin, was in attendance to interview Hidden TEC members for his upcoming federal study on technology and rural communities (see last section).
- **ECONOMIC DEVELOPMENT/MENTORING:** See Social Capital section of the report for information on the Sept. 23, 2003 Internship Fair held at Hampshire College.
- **ECONOMIC DEVELOPMENT/MARKETING/BUSINESS NETWORKING:** A Marketing Showcase developed by Joan Linden, a marketing designer based in Amherst was held on Oct. 28, 2003 at the Crocker Communication Building housed at the Springfield Technology Park adjacent to STCC. An estimated 200 professionals from all over the region attended.
- **ECONOMIC DEVELOPMENT THROUGH MEDIA COVERAGE:** With the expertise provided by this author, McGee and Haigis -- coupled with a huge boost from WMECO and local institutions -- the hidden tech population and Hidden TEC the organization have garnered a great deal of media coverage. The aim was organization-building not grand-standing.

The media is a key tool for alerting hidden tech proprietors -- many of whom are indeed hidden away in the woods and on mountain tops -- that the organization existed and could assist them. All major media print outlets in western Massachusetts have provided coverage of the hidden tech phenomenon, along with some television stations. The author has boosted national coverage through her own writing and through media contacts outside this region.

Leveraging the Hidden TEC Organization to Build Community and Social Capital

As noted earlier, the idea of creating new social networks, norms and community associations -- what Putnam calls social capital -- was always part of the Hidden TEC design. This author, from many years of prior organizing experience, realized from the start the value of connecting the hidden tech population to local institutions. Not only would institutions such as colleges and universities have services to offer hidden tech proprietors, but they are prime employers of subcontractors. Moreover, there was early recognition that hidden tech entrepreneurs, many of whom retain their 1960s sense of social conscience, could help with civic involvement

through serving as mentors to students, minority youth, and even provide services to regional charities and cultural organizations.

Lewis Rudolph, an expert in philanthropy and community building who worked for 23 years with United Ways across the United States -- including heading the community-building team at United Way America based in Alexandria, VA. -- believes that entrepreneur networks like the RTC, in general, and Hidden TEC in particular, may have the potential to revive and transform lagging mainstream philanthropies such as United Way that were built on older workplace and labor union models.

"The plain fact is that workplace campaigns for fund-raising were based on union organizing in the 1940s, especially in large manufacturing plants. The payroll deduction was the bread and butter of philanthropies such as United Way that allied them with corporate America. With trends in economy and technology, downsizing of corporate America, the home-based or even small-office based entrepreneur who is not connected to any organization and barely shows up in government statistics poses formidable challenges for the future of philanthropy. How do you reach them both in a physical, moral and spiritual sense? How do you meet them and channel their latent idealism to build community and civic involvement? Could this be a brand new customer who doesn't answer to the old, top-down model of corporate social pressure?" he asks.

Rudolph's is a rhetorical question. A member of Hidden TEC and a driver of the organization's governance and policy creation, he already knows the answer: The new model for philanthropy lies in prompting grass roots citizen engagement in entrepreneur networks such as the RTC, of which there are almost 100 nationwide. As the Hidden TEC movement spreads and RTCs (or regional technology alliances) drill down into memberships to tap hidden tech entrepreneurs, these networks can be tapped for civic good, as well. Hidden TEC, through its programming and cyberspace platform, offers a glimpse of this potential to both build social capital within a community and even globally, as well as assist charities and non-profits. Moreover, social capital is the foundation of a healthy economy and sound government at the local level, which is a crystallization of Putnam's thesis.

For example, Rudolph wonders whether RTCs and "Hidden Tech" networks could function, in part, as strategic "neighborhoods" for citizen engagement and social renewal in communities. Would a 700-plus member "Hidden Tech" association volunteer to help out on community projects, such as developing Internet access for inner city youth? By what process would it reach a decision to help as an association? Could such a Web-based association learn to play a major role in community development, on a par with regionally based corporations with 700 employees? He says the short answers to these questions are all the same: "We don't know. But the potential to mobilize the intellectual and financial assets of these electronic associations is too huge to ignore."

"The national array of RTCs, including the hidden tech component, represent new opportunities to mobilize resources and leverage social capital. But old methods of organizing and fundraising are outmoded to reach this new market as it populates the American and global workforce. It's far from clear what methods might pay off, yet there are some clues to guide market research," he adds.

Some members of the western Ma. non-profit sector have asked if Hidden TEC members will help out even when no obvious business benefit is offered. The answer is yes. They have answered cyberspace appeals for technology information to assist a local day school; attended dialogues with city and regional planners about building reuse and rehabilitation; offered marketing advice to STCC; have been willing to come out and support fund-raising drives for the local National Public Radio Station (WFCR); and came out in large numbers to work as mentors to area college students at a recent Internship, Marketing and Networking Fair held at Hampshire College on Sept. 23, 2003.

However, Brian Gallagher, President and CEO of United Way of America, doesn't believe that one-shot couplings of hidden tech entrepreneurs with charities goes far enough to revitalize communities or build social capitals on a local, regional or national level. In an exclusive interview for this report, Gallagher decries the fact that in a growing national economy that there is so much economic disparity, and that despite a huge burst of social agency building that started in the 1990s.

"We've increased institutional capital in the sector that is supposed to be building social capital, and substituted institutional capital for social capital. People have got to get involved on the grassroots level," he says. "If we double the number of non-profits it won't matter. There's got to be a movement at the highest level needed to create collective action that then leads to social change. And that comes from the grassroots."

The trend to relocation to lifestyle regions has created a huge shift in community -- in the notion of what makes up the grassroots -- Gallagher notes: "The idea of a hidden tech community intuitively makes sense. There's been a lot of work and study being done about the erosion of community and the disappearing of the connecting networks that build social capital, but not much done around what's evolving around the country and the world -- the new connecting networks of the future that are building community. When you read that a person working for AOL leaves the headquarters in an urban area to be a part of what he views to be his community, that tells you there's a social investment decision that people are making."

And he adds, that as "the place of work becomes less critical to effectiveness and productivity, it allows individuals to more heavily weigh the personal and social investment part of a decision. That's true even in this building that not only do we have more people not working in this space (UWA headquarters in Alexandria, Va.), but it's my decision to accelerate that. If you want to understand a country, you need to be out in it. You can't be in Washington exclusively. You need people embedded in western Massachusetts, Santa Fe, New Mexico etc . . . to build a true a national mindset. Having worked the total of my careers in United Way locals, the difference between Providence and Santa Fe is enormous."

But with decentralization comes the challenge of communication and maintaining a community within an organization. "When you have more people working in physical isolation, how do you build business and social currency so they truly feel connected?," he asks, agreeing that the development of entrepreneur networks like the RTC and Hidden TEC provides one solution.

Then there's the issue of philanthropic fund-raising today. As the work place gets smaller and manufacturers are disappearing, Gallagher is finding a growing emphasis on individual giving. "Every year, I see the percentage of individual donors growing; donors who aren't connecting to anyone. It's a strategic challenge for philanthropy to move what is already happening -- connecting to the micro or hidden tech company that may be located anywhere," he says.

"So, from a social capital, philanthropic and community network basis, it becomes interesting and powerful when you move from identifying these players to then connecting them with the mind set of getting them civically engaged. That's the intersection with the new strategic direction for United Way. I know from my own work you've got to reach the baby boomer in an issue-oriented fashion; you've got to provide a lead to action. Getting people to volunteer for a food bank, as worthy as it is, isn't enough. It isn't good enough to spend time with an agency unless it's connected to collective community action, which is the highest evolution of social capital. Social capital is only truly social capital when it is collective action in the community's interest. Short of that it's institutional capital or personal capital -- not social capital."

And, if one looks at the intersection of social capital and economic development, Gallagher says entrepreneur networks not only boost individual proprietors and help them thrive, but also boost economic development. "Out of one of those networks could come a 5,000 -- 10,000 person company," he says.

How to actually motivate hidden tech entrepreneurs to take part in collective social action and philanthropy is still being tested in western Massachusetts. As Gallagher points out, it's important to know how to intuitively reach this population, many of whom are from the baby boom generation. David Brooks in *BOBO'S IN PARADISE* (Simon & Schuster, 2000) provides one of the best "guides" to baby boom sensibilities and social activist tendencies. As he notes, it's the baby boom generation that responded to John F. Kennedy's appeal to service and flocked to the inner cities to help the poor and minorities, as well as joining the Peace Corps. As this cohort has aged and settled down, many baby boomers have integrated 1960s sensibilities into their work and lives. Not surprisingly, Brooks lists portions of this region, particularly Hampshire County, as havens for the Bobo (bourgeois/bohemian) type of person.

Although there is not yet data to support the extent to which hidden tech entrepreneurs can be tapped to build social capital, there is enough anecdotal information available in this report to guide nonprofits and charities who want to tap their skills and talent. Here's what we know about the Hidden TEC membership that could be applied to building social capital:

- They are willing to be part of an affinity group(s);
- They are willing to offer help and information on health insurance, computer services, free marketing for colleges, etc...with no remuneration or direct reciprocity;
- They liberally offer free business advice.

The following are some examples through past actions and programming of how Hidden TEC is already building social capital in western Massachusetts:

- **NETWORKING ALLIANCES:** Besides its relationship with the RTC, Hidden TEC is actively developing alliances with other organizations. A loose alliance has been formed with regional Chambers of Commerce, and colleges, Amherst Center for Stage and Screen (ACSS), the regional chapter of the National Writer's Union and Fast Company magazine's Company of Friends organization. The Rt. 495 Networking Organization has been approached for a joint event, as has the Canton, Conn. CARE group, which focuses on managed growth.
- **COLLEGE/UNIVERSITY OUTREACH:** In the course of seeking data on the hidden tech population, much progress was made in educating the leadership of area colleges -- Greenfield Community College, Springfield Technical Community College, Holyoke Community College, Hampshire College and Smith College -- about the ways that the hidden tech population could benefit their students and alumni. To date, both STCC and Hampshire College have hosted successful Hidden TEC programs.
- **Hampshire College:** Greg Prince, Hampshire College President, personally helped develop a very successful internship fair that was held on the college's grounds on Sept. 23. All of the region's five colleges -- Hampshire, UMass, Smith, Mt. Holyoke and Amherst -- were represented through student participation (85 in all). And all colleges sent administrators from their career centers. Approximately 30 Hidden TEC companies were on hand to explain their businesses and to either hire or mentor students.
- **STCC:** Hidden TEC has the most evolved relationship with STCC, which has opened its doors to build alliances with hidden tech entrepreneurs. Offices and departments providing support to the organization involved include the president's office, office of economic development, alumni office and development office. In the course of those discussions, and working with STCC officials on the highly successful Hidden TEC First Anniversary event on May 5, 2003, college officials

have indicated the following ways they believe the hidden tech movement can generate revenues for STCC:

- 1) Promoting use of the STCC video conferencing center;
 - 2) Encouraging rentals for the STCC incubator space;
 - 3) As potential for future courses/training
 - 4) As a means of encouraging alumni involvement from the eventual creation (still being discussed) of a hidden tech alumni network for STCC.
- **Wesleyan University:** Based in Middletown, Conn., Wesleyan is planning a spring program to be held on campus with the assistance of this author and Northeast Utilities. The aim is to help identify hidden tech entrepreneurs in the Greater Hartford region and among the Wesleyan alumni base to provide alumni networking services, mentoring for students and possibly tap alumni for fund-raising purposes.
 - **THE ARTS/CULTURE:** Hidden TEC, the local chapter of the National Writer's Union (NWU), and the Amherst Center for Stage and Screen (ACSS) are planning a joint "Hollywood Night" program for March 2004 to both provide much-needed information to Hidden TEC members about the sorts of subcontracting work available in the film industry, as well as promote awareness of the ACSS project-an attempt to create a world-class cinema and theater complex in downtown Amherst. Also, members are signing up to help the western Massachusetts NPR affiliate, WFRC, with fall and winter fund-raising efforts.
 - **CHARITIES:** The Food Bank, located in Hatfield, Ma., has turned to Hidden TEC for support on multiple levels, including physical and technical assistance. A Food Bank night is being developed for the winter of 2004 where Hidden TEC members can network while actually stacking and sorting food for distribution. And Food Bank director, David Sharken, is turning to the Hidden TEC discussion list for help whenever needs occur. Here's one example:

Take a tour of The Food Bank! Take a tour of The Food Bank! Our next Behind-the-Scenes tour is on Thursday, October 24, 5:30 pm to 6:30 pm. Refreshments will be served. There will be no tour held in November or December, so sign up to see The Food Bank on October 24th! To reserve a spot please call 413-247-9738 or send email to info@foodbankwma.org. Feel free to bring kids and friends.

Taking the Hidden Tech Movement National

Anecdotal evidence abounds that points to the emergence; of a national and even global hidden tech phenomenon. Thanks to Web search engines, hidden tech entrepreneurs throughout the United States are reaching the organization to participate in discussions or pose queries about the availability of jobs and housing in western Massachusetts. In one case, a Maryland man named Jonathan Dill actually commuted to Hidden TEC meetings for several months while determining whether or not to make the move. He eventually found a job closer to home, but continues to communicate with friends made through the organization.

Without much concerted effort of anyone's part, the hidden tech phenomenon also is starting to catch on nationally in certain regions of the country where hidden tech entrepreneurs reside, or where there are pre-existing entrepreneur networks. Part of this awareness stems from several national articles on the topic posted in places like the Wesleyan University alumni magazine and the American Planning Association's (APA) *News & Views* newsletter.

This phenomenon is also receiving a big boost from Delore Zimmerman, one of Joel Kotkin's alliance partners and a nationally recognized economic development expert and specialist on rural America in his own right. Zimmerman has selected western Massachusetts as one of the three or four locations in the United States to study what he calls "rural-urban trade linkages" under the auspices of the United States Department of Agriculture (USDA). He was in the region in June and then in September as part of this effort, which he describes in the following manner:

“Our Small Business Innovation Research project, titled ‘Facilitating Rural-Urban Trade and Technology Flows,’ is looking at how firms, organizations in technology, research and education, and industry networks/clusters around the world are forging new and innovative ways to create effective rural-urban linkages that connect geographies. The project’s aim is to develop action strategies for places located outside large urban centers, to develop more effective trade and technology connections with metropolitan economies.”

According to Zimmerman, western Massachusetts’ hidden tech population, comprised of hundreds of individual entrepreneurs and small companies, is one example of how trade and technology linkages may be established and cultivated to benefit a local economy. As the old saying goes, the whole is greater than the sum of the parts as these multiple connections of individual entrepreneurs and small companies result in both economic and social ties that contribute positively to the area’s overall vitality.

The practices of individual businesses are an important and potent dimension of rural-urban trade and technology flows. Individual business “cosmopolitans,” as Rosabeth Moss Kanter of Harvard Business School calls them, create many of the connections between regional economies and individual “smart firms” because they are familiar with the new informational technologies and business practices that are often the only real ties to the networked economy some regions and communities possess.

Zimmerman’s research is focusing on three different kinds of linkages and flows: 1) Firm to firm (or individual to firm); 2) Network to firms or other networks; 3) Community-based organization to community-based organization, e.g. technology groups, business groups and civic groups.

A preliminary look at what’s going on here in the United States and in other places around the world shows that the success of regional networks increasingly depends on their ability to become a nodal point in national and supranational information, communication, investment and production flows. The relatively closed industrial districts belong to the past. This means that the dynamism and prosperity of a region is and will be increasingly dependent on the power of its connections elsewhere.

"My intent in the first phase of the project is to do case studies of each of these flows, recognizing of course that there will be some overlap. I am also looking for community/regional partners who want to be partners in Phase II of the project. This will involve some matching funds but will result in some very specific action plans being implemented over a two-year period.”

"Also, I am viewing the case studies of the next few months as the final investigative work that will be conducted for inclusion in a book that I want to complete entitled *Ruralution*. The book will deal with revolutionary business and civic entrepreneurs and regional strategies for success in places outside the large metropolitan regions.”

On the social capital front, Rudolph is already in contact with national United Way officials and experts in non-profits throughout the country to assess ways to utilize the hidden tech phenomenon to revitalize American philanthropy. He points out that the RTC/hidden tech populations create "a strategic challenge for United Ways and other mainstream charities. Millions of workers are now home-based to manage global teams or write publications or sell products. How could you engage this burgeoning market to build social capital in a geographic region? Direct

mail, payroll deduction and phone solicitation likely will not work to relate to this new population of workers."

Rudolph explains that with "the downsizing of corporate America, workplace fundraising has grown more tedious and labor intensive for United Ways and other charities. In many regions, the only growth areas in the labor market are in small businesses (20 and fewer employees.) The 'One Size Fits All' approach of charitable federations generally doesn't resonate as well with small business owners and their employees. Couple this with the logistical cost of identifying and reaching the small businesses with personal sales calls and materials, and the problem of making up the lost income from the large, downsized companies is compounded for fundraising federations like United Ways."

"Could United Ways pioneer new methods for harnessing the compassion and caring of entrepreneurial networks? If United Ways don't, other federations soon will. Only solid market research that identifies the needs, aspirations and requirements of this emerging customer will give us the answers," he adds.

Conclusions/Future Steps

Much work remains to determine the actual impact of the hidden tech phenomenon in New England's Knowledge Corridor, let alone on a national or global basis. Although this movement has been brewing for as long as there was technology around to free individuals from organizations, awareness of this trend is still quite new. The following are possible future projects for this region that might help support hidden tech entrepreneurs, boost economic development and promote the growth of social capital.

- 1) Continue to quantify the hidden tech population in New England's Knowledge Corridor through data base searches and grass-roots organizing efforts. Knowing the locations where people reside is crucial to assist them with technology and to alert town, city and regional planners of their existence.
- 2) Hidden TEC has 700 members and counting, but very little is known about them outside of the initial 75 studied in the summer of 2002. It would boost regional economic development efforts -- including recruitment of larger corporations -- to know something about the talents and skills this group has to offer.
- 3) Some hidden tech entrepreneurs are highly connected to the national and global economies. Identifying these individuals and tapping them for regional economic growth would be a major plus.
- 4) The Hidden TEC organization would benefit from outside funding to promote development of its Web site; pay for implant of entrepreneur matching software; boost outreach efforts beyond the region to create a national/global opportunity pool; and pay for additional alliance building.
- 5) The hidden tech phenomenon is already drawing national journalists and experts to the region as the basis of futuristic studies. Some of these experts, including Kotkin and Zimmerman, could be tapped as fellows for a hidden tech study center. All that's needed is a willing college or university host. The benefits would be enormous in terms of growing awareness of the innovative nature of New England's Knowledge Corridor.
- 6) The region could also benefit from additional study into how hidden tech entrepreneurs could be leveraged to build social capital. This is a new vein to tap that could greatly enhance regional charities, nonprofits and philanthropies.
- 7) Conduct a study on the dynamic interplay of social capital and economic development using the RTC/Hidden TEC as a model.

APPENDIX

1) The following is a breakout by year and by the last location where the new home purchaser resided before moving to this region:

YEAR 2000:

Out of 25 home sales that year nine went to hidden tech entrepreneurs. They came from:

1. Oakham, Ma.
2. Huntington Valley, Pa.
3. Cambridge, Ma.
4. Kent, Ohio
5. Rancho Palos Verdes, Calif.
6. North Egremont, Ma.
7. Boulder, Colo.
8. Albany, N.Y.
9. Enfield, Ct.

YEAR 2001:

Out of 26 home sales, 10 (more than a third) went to hidden tech entrepreneurs. They came from:

1. Mayfield Heights, Ohio
2. Ossaning, N.Y.
3. New York, N.Y.
4. Los Angeles, Calif.
5. Rochester, N.Y.
6. Stafford, Vt.
7. Bolinas, Calif.
8. Montgomery, Ma.
9. Pottstown, Pa.
10. East China, Mich.

YEAR 2002:

Out of 30 home sales, eight were to hidden tech entrepreneurs. They came from:

1. San Francisco, Calif.
2. Old Saybrook, Conn.
3. Falls Church, Va.
4. La Jolla, Calif.
5. Waltham, Ma.
6. Tewksbury, Ma.
7. Medina, Ohio
8. Bay City, Mich.

2) U.S. Census Bureau, "Home-Based Workers in the United States: 1997"

Examined home-based worker estimates 1960-2000 from various census surveys including:

Decennial Census: work at home (categorized as conservative estimate)

1960: 4,663,000

1970: 2,685,000 (decline attributed to drop in family farms and consolidation of formerly home-based professions like doctors into group practices)

1980: 2,178,000

1990: 3,406,000

2000: 4,184,223 (from 2000 Census)

3) Appendix - Survey of Income and Program Participation (SIPP): work at home

1997 9,260,000 of total of 132,692,000 workers, down from 10,886,000 in 1995 though a change in definition of primary job makes this drop questionable. The SIPP measures work at home status for "mixed workers" and "home workers," the latter category being those who worked exclusively from home. This group totaled 6.4 million in 1997. In 1997, 50 percent of home workers were self-employed, 30 percent worked in professional services industries, and 78 percent of home workers lived in metropolitan areas (compared to 83 percent of non-home workers).

Home-Based Firms, E-Commerce, and High-Technology Small Firms: Are They Related?

By Bruce D. Phillips, Economic Development Quarterly, February 2002.

Key findings:

- In 1997, about 52 percent of 25 million business tax returns represented activities operated in a home-based setting, producing \$325 billion in receipts or 10% of the output of the small business sector. (Data are from a sample of 125,000 business owners from the Census Bureau's Characteristics of Business Owners, 1997.)
- There are about 11 million home-based businesses now, up from 9.2 million in 1997.
- Many factors accounted for rise in business start-ups in the 1990s. "In addition to the favorable aggregate economy, a host of additional factors seems to be pushing individuals into business ownership: a lack of security in large corporations, the declining price of information technology products, the stresses caused by time pressures, the desire for greater control over one's life, and the relatively cheap and easy market expansion made possible by the internet."
- Most HBBs are involved in production or clerical work or used the home for telecommuting.
- A number of HBBs are sizable businesses with sales of more than \$1 million and multiple employees, but most had receipts of less than \$50,000 and no employees.
- A small amount of HBBs (about 5 percent) move out of the home in a few years in order to facilitate their greater growth. These are thought of as entrepreneurial firms.
- About 90 percent of HBBs have a sole proprietor, 4 percent are partnerships and 5 percent are subchapter S corporations.
- "Many people use the home to supplement a primary income, but about a third of HBB owners work full-time in their home offices. I believe we are seeing a new paradigm for entrepreneurship, in which myriad entrepreneurs begin and remain at home."

4) U.S. Small Business Administration, "Self-Employment and Computer Usage," April 2003

Data are from the Census Bureau, Current Population Survey, Internet and Computer Use Supplements from 1998 and 2000.

- Self-employed persons with computers numbered 10.5 million in 2000, up 14.7 percent compared to 9.2 million in 1998. Access to the Internet by the self-employed grew 50.4 percent during these two years.
- In 2001 self-employed persons that were home-based businesses numbered 5.9 million and represented 29.7 percent of the self-employed.
- Self-employment in the report refers to both incorporated and unincorporated businesses and represents the primary occupation of the individuals surveyed. These self-employed individuals may or may not have employees. Some work from home, while others run their businesses from other locations.
- As a percentage of the civilian labor force, self-employment represented 7.8 percent in 2000 compared to 7.0 percent in 1998.
- Almost all the growth between 1998 and 2000 was generated by the incorporated self-employed.

5) SOME INDUSTRY/OCCUPATION CODES MOST LIKELY TO INDICATE HIDDEN TECH COMPANIES (through Wesleyan University)

CODES:

W High probability industry/occupation for Wesleyan alumni

** Indicates a high likelihood that the individual is a hidden tech proprietor

* Indicates a likely hidden tech proprietor

?? Only likely if telecommuting or contracting to them

** INDUSTRY CODES:

W - 7371 - Interactive video

W - 8742 - Management consulting services

W - 8743- Public Relations services

7370 - Computer system design

7372 - Web design/development

7378 - Computer maintenance

7389 - Computer business services

** OCCUPATION CODES

W - 0047 - Independent business owner

W - 0013 - Computer programmer . . .

W - 0014 - Computer systems analyst

W - 0015 - Computer data processing services

W - 0017 - Consultant, business management

W - 0018 - Consultant, education and non-profit

W - 0020 - Consultant, other
W - 0032 - Fund raiser, grants . . .
W - 0076 - Media agents . . .
W - 0119 - Writer, technical
W - 0127 - Graphic design
W - 0128 - Multimedia design
0019 - Consultant, tech specialties
0031 - Financial, planner manager

* INDUSTRY CODES:

W - 2710 - Printing/publishing of periodicals
W - 2720 - Printing/publishing of books
W - 7310 - Advertising services
W - 7920 - Music Industry
W - 7922 - Theatrical producers . . .
W - 8090 - Health/medical services
W - 8100 - Legal services
W - 8712 - Architectural services
W - 8730 - Research and testing (non-medical) . . .
W - 8999 - Creative artistry . . .
2750 - Printing-commercial
6211 - Brokerage, securities, . . .
6410 - Insurance agents . . .
6530 - Real estate agents ...
6550 - Real estate developers
7000- Hotels, lodging . . .
7999 - Amusements . . .
8711 - Engineering services
8720 - Accounting . . .
8744 - Sports agent

* OCCUPATION CODES:

W - 0004 - Advertising, copy writer
W - 0005 - Architect . . .
W - 0006 - Art dealers . . .
W - 0007 - Artist (painter) . . .
W - 0022 - Editor, publisher
W - 0054 - Journalist, reporter . . .
W - 0077 - Media/entertainment producer/director (film)
W - 0078 - Media/entertainment (radio, TV)
W - 0079 - Media/entertainment (theater, music)
W - 0087 - Musician, composer . . .
W - 0090 - Photographer
W - 0091 - Psychologist, counselors
W - 0117 - Writer, creative . . .
W - 0118 - Writer, radio, TV, film . . .

W - 0124 - Think tank
W - 0131 - Editor, magazines
W - 0132 - Editor, news
W - 0133 - Editor, TV/film
0002 - Accountant . . .
0028 - Engineers
0050 - Investments advisor
0051 - Investments, security broker . . .
0053 - Investments, venture capital . . .
0093 - Real estate appraisal
0094 - Real estate development/property management
0095 - Real estate sales brokers
0096 - Sales for manufacturer (inside/outside/manu. reps)
0125 - International business
0140 - Sports agent

??INDUSTRY CODES:

W - 7400 - Internet companies
W - 8400 - Museums . . .
W - 8401 - Arboreta . . .
W - 8500 - Charitable foundations
W - 8731 - Research - physical/biological
2830 - Pharmaceutical manufacturing
3270 - Computer/office manuf.
3570 - Computer hardware manuf.
4810 - Communications: telephone . . .
4811 - Communications: Internet service provider
4832 - Communications: Radio
4833 - Communications: TV/cable
9999 - Non-classified industries

?? OCCUPATION CODES:

W - 0092 - Radio/TV broadcasters

6) HIDDEN TEC SUCCESS STORIES

Just about every day someone out there in the region or cyberland expresses appreciation that the Hidden TEC organization exists. Here are three examples:

Hi Amy,

Thank you for making "Hidden Tech and the Valley" available online. I have read it with great interest as I am thinking about relocating to the valley, well actually returning, I was raised in Northampton and Ashfield and left in the late eighties for the San Francisco bay area. I currently work for a bio-informatics lab at UC Berkeley. The model of business that you describe is very

interesting, I do have one question about the study through, do you have available the range of salaries that the respondents reported?

Thank you for your time a trouble,

best

Eric

this sounds familiar...i moved from nyc to wmass after the start up I was in burned through its cash. i was working on a start-up that came out of livewire labs called giantbear. we were selling ip services to the tier II and III wireless carriers - - eventually sold to infospace.com.

i now have a great small biz doing domino/notes consulting out of my home. looking to un-hide a little by acquiring some office space and bring on some additional teammates in the next month. if you know of any domino/notes folks looking for work or some additional work please pass my email address.

thanks,
billy

billys@berkshiresolutions.com

Thanks for all your replies to my inquiry about a voice-over artist. (I guess this networking stuff really works!) I've passed the info along to my boss, who will be making the decisions.

Thanks again,
Brian Pinette