

Blacksburg Electronic Village: The Missing Years (1979 – 1993)

Mathew Mathai

Abstract and Acknowledgement

Much has been written about the Blacksburg Electronic Village (BEV) beginning with its launch in October 1993 and thereafter. This document traces the origins of the BEV. In keeping the paper brief, I'm certain I've failed to acknowledge the contributions of many volunteers and paid staff members who worked diligently to make the BEV a reality. These omissions in no way diminish the value of their efforts or dedication.

Paper

October 2003 marked the tenth anniversary of the launch of Blacksburg Electronic Village (BEV). The *thinking* that led to the formation of the BEV (or “Community Information Utility”, as it was referred to then) began *over a decade* prior to that (around 1979) in the Environmental Design and Planning Program in Virginia Tech's College of Architecture. A group consisting of faculty members Bob Heterick, Len Simutis, Al Steiss, Bev Yanick, and Dick Zody also included Erv Blythe, Associate Director of the Computing Center, who was enrolled in the graduate program at that time. This group tossed around the idea of a community-centric, network accessible set of products and services. Heterick and Blythe discussed ideas from a book called *Planning Community Information Utilities* by *Harold Sackman* that helped them realize the potential power of community networks. Though Heterick was quick to point out that their musings in 1979 could not be credited with being *the* precursor to the BEV, the seed obviously was sown back then.

From the mid eighties through the early nineties project teams at Virginia Tech developed various information resource systems that harnessed the newly available power of distributed computing by connecting smaller, cheaper computers to the network and minimizing the use of expensive mainframe computers. The Single System Image (SSI) project envisioned by Heterick (at that time Vice President for Information Systems) and led by Luke Ward had the noteworthy goal of providing users a single, consistent view of resources on the network irrespective of network access mechanism so

that all resources could be accessible from the user's desktop. The first phase of this project provided email on workstations (SSImail) without logging in to the mainframe. Later, the Eris project led by Andrew Cohill allowed students to use their personal computers to access information resources. Eris provided network access and a user friendly interface to services that included a calendar of events, news items, and Virginia Tech's graduate and undergraduate catalogs with timetables. SSImail also made it into the very first versions of software distributed to a pilot group of BEV users, though it was replaced by the POP mail client Eudora that was popular by the time the software was offered to the general public. (Interestingly, both Ward and Cohill would later be part of the BEV when it first opened its doors.)

By 1989, Blythe had become Director of Telecommunications for Virginia Tech. At the time, National Science foundation's network (NSFnet, precursor to the Internet) was used primarily by researchers and universities. Blythe gave a presentation at the National Science Foundation and outlined ideas for opening the NSFnet gateway to the local community in order to explore the use of NSFnet by ordinary citizens. The concept was so radical that he was asked by one of the attendees "What on earth would a person who is not a faculty researcher do on NSFnet?"

In the fall of 1990 Erv and Judy Lilly (Associate Director of Telecommunications for Virginia Tech) pitched the idea to executives at Bell Atlantic (now Verizon) and to business leaders in Blacksburg. Heterick was no longer the Vice President for Information Systems but was working for Virginia Tech part-time exclusively on this project. Several months later, he became the President of EDUCOM. Hetericks's presentations at national conferences (including EDUCOM) about the electronic village concept created quite a stir and the staff at Virginia Tech began fielding numerous inquiries into the project. Media attention began as newspapers picked up on the concept and the idea caught fire. Blythe recalls that events moved quickly from this point.

Ken Anderson, President of Anderson & Associates, Inc., a local business firm, remembers meeting with Heterick, Blythe and Lilly, and being inspired and excited by the vision. Blythe also spoke to Joe Wiencko, Tim Pratt and Charles Bostian of the Electrical Engineering department during a trip to Washington DC. Wiencko remembers having an "animated" lunch with Heterick and Blythe at the Marriott in Blacksburg

where they presented him with a vision of students, faculty, staff and residents of Blacksburg using the Internet to form an online community. Wiencko was so intrigued by the concept that he sought and found employment at CNS so that he could work full time on this project. In Blythe's words, "Joe [Wiencko] was the first, very passionate, get something done, true believer to work on this project full-time." Wiencko served as the first project director of the BEV with guidance from Theta Bowden, Director of Network Research and Planning, and wrote a technical paper designed to convince Bell Atlantic that the project should be of interest to them. Officials from the Town of Blacksburg were also invited to participate in the discussions about the formation of the BEV because of the potential benefit to residents not affiliated with Virginia Tech.

Wiencko is credited for coming up with the name "The Blacksburg Electronic Village." His paper titled "The Blacksburg Electronic Village" (published in the summer '93 issue of Internet Research) specified four characteristics essential to a successful electronic village (exemplified by the prototype BEV):

1. It would include the entire community, not just tech-savvy people.
2. The focus would be on interactions between people rather than specific technologies.
3. Applications would be tailored for each type of user.
4. Community networking would become a fundamental consideration in the vision and planning of a nationwide networking infrastructure.

At a press conference in January 1992, leaders from the three organizations that eventually partnered in creating the BEV -- James McComas, president of Virginia Tech; Roger Hedgepath, mayor of the Town of Blacksburg; and Hugh Stallard, president of Bell Atlantic of Virginia--spoke about their vision in a room full of reporters and interested individuals that included Congressman Rick Boucher from Virginia's Ninth District. All partners supported the concept of an online community of users and agreed to undertake a feasibility study over the next twelve months to determine if it was possible to bring this concept to fruition.

In 1992 Virginia Tech's modem pool, used primarily by university personnel to access campus mainframes, was upgraded to use "high speed" (first 9600 bps and then 14.4 kbps) modems. This allowed individuals to use SLIP to connect to the Internet so they could "telnet" and "ftp" to host computers on campus as an alternative to connecting

to them via ROLM CBX ports. . The first version of BEVNet PC was a DOS-based combination of C programs and batch files. It presented users with a menu of programs including FTP, Telnet, Veronica, Gopher, WAIS Search Tools, and Usenet News readers and allowed them to retrieve information from the Internet using these programs. Kim Homer was part of the project team that worked with users to help them connect to the Internet using SLIP (Serial Line Internet Protocol) and these programs. She also wrote much of the documentation to make it easy to understand the process of connecting to the Internet. This was a challenge because of the differing hardware platforms users had at that time and the various drivers required to make the connection work. Homer recalls how difficult it was to get the first two hundred users online. She and Phil Benchoff, an Internet savvy network engineer, applied for bev.net and other domain names such as those used by the regional library and the town of Blacksburg. Benchoff also wrote some of the software to authenticate and authorize users dialing into Virginia Tech's modem pool.

Microsoft Windows, then Windows for Workgroups, began gaining popularity on the PC platform. Users ran the Trumpet WinSock implementation under Windows and MacSLIP under MacOS 6 to connect to the Internet using Virginia Tech's modem pool. This effectively made the BEV the first Internet Service Provider to Blacksburg and surrounding areas. The BEV continued to provide this service until the advent of commercial ISPs in 1996.

In 1992, NCSA Mosaic appeared on a UNIX platform, heralding the advent of the World Wide Web. Since the Eris project provided equivalent services to the campus community, its efforts were merged with those of the BEV, whose goal was to serve a broader community of users that included residents of Blacksburg and neighboring communities. Andrew Cohill took over responsibilities as Director of the BEV project.

In January 1993, all partners and attendees of the '92 press conference reconvened at another press conference to state their decision to move forward with the creation of the BEV and announced that it would start offering services in the fall of that year. The BEVNet software was modified to take advantage of changes in the Internet and to use the Web. The process of applying for a BEV account and registering for the software was streamlined so users could fill out the paperwork and get an account while

they waited. Volunteers met with interested residents in various settings in the Town to answer questions and help others who were having trouble with their hardware and software. In addition to dial up modem services available to any home with a telephone line, residents in three apartment complexes could sign up for Ethernet service. Close to five hundred Ethernet ports in these apartment complexes were active in October 1993 when the project was launched.

Some dedicated seniors in the community, including Dennis Gentry, who didn't want to miss out on the Internet, joined the group intent on learning how to get connected. They taught other seniors what they knew and this grassroots work formed the foundation of the BEV. The movement started slowly, nurtured and sustained by the dedication of volunteers, project staff and early adopters. Eventually the BEV project captured the community imagination and became internationally renowned. BEV continues to serve as an outreach program that helps people get online and effectively use technology to realize the benefits of living in a connected world or, as Wiencko termed it in 1992, an "Electronic Village".

About the author

Mathew Mathai served as the Director of the Blacksburg Electronic Village (BEV) from July 1, 2002 through June 30, 2004 during which time the BEV, in partnership with Virginia Cooperative Extension (VCE), built electronic villages modeled after the BEV in seven rural counties in the Commonwealth of Virginia to help their residents benefit from the Information Economy. The BEV and VCE also provided each participating county with a technology master plan for the upgrade of their communications infrastructure. This effort was funded by a Department of Commerce Technology Opportunities Program (TOP) grant, details of which can be found at <http://top.bev.net>.

Follow up reading

Readers interested in learning more about the BEV can read the book "Community Networks: Lessons from Blacksburg, Virginia (Second Edition)" edited by Andrew Cohill and Andrea Kavanaugh. Chapter Two of this book contains more details about the history of the BEV.