

## Wi-Fi to the Max

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Wi-Fi provides Internet access via short range radio and is particularly handy for portable computing devices such as laptops and handhelds. It is currently available in many homes, offices, hotels and coffee shops but it would be even handier if it were available everywhere. A plan has been underway for over a year to provide Wi-Fi services throughout Silicon Valley, including Los Altos Hills. However our hilly terrain will make it difficult to provide this service, so we likely will be among the last areas to be served. That may be a blessing in disguise.

Early builders of municipal Wi-Fi systems have discovered that usage rates by residents are lower than expected, which makes the economics of “free” internet services, based in part on advertising revenues, not as commercially attractive as once thought. This may affect the development time and services of the planned system. In fact during the last few weeks, Earthlink, which has been an early developer of such systems, withdrew from the planned San Francisco city-wide system, which puts it in jeopardy, Caltrain has postponed their planned installation of W-Fi on commuter trains and the Silicon Valley group has acknowledged that their plans have become less certain.

In any case, there are some important privacy issues to be considered. Most people would not like to have neighbors view their online banking and investment transactions, not to mention their medical inquiries or other web searches. This also applies to unauthorized commercial or governmental snoops and other crooks. There are many privacy issues that arise from using the Internet but one that stands out when using wireless communications is the possibility of people nearby, including those in vehicles, listening in. Happily, wireless links can be made adequately secure through the use of cryptographic software but you must make certain that the Internet Service Provider (ISP) provides it. Privacy invasions and information disclosures by your ISP and others with whom you do business is another important matter.

The American Civil Liberties Union (ACLU) argues persuasively that wireless systems should include safeguards so that companies are not given free reign to track who you are, what you are looking at online, and the location of where you are viewing the information. Once your personal information is collected, you do not know where it will end up or how it might be used. A particularly egregious invasion of privacy occurred last year when AOL publicly disclosed the search histories of thousands of customers. While individuals were identified only by number, in many cases it did not take much analysis to figure out true identities.

While it is reasonable to provide lower performance for free accounts, I believe that users of such accounts should not have their personal data subject to greater commercial exploitation or public disclosure than other users. Furthermore, basic privacy requirements should be specified in Requests for

Proposals (RFP). Unfortunately this has not been done so far for the Silicon Valley system, whose current RFP [1] says:

Proposers will be required to provide a copy of the End User License Agreement (EULA) and any End User Privacy Protection policies they employ with the response to the RFP.

In other words, instead of imposing basic privacy requirements, prospective contractors are invited to propose how much privacy they will provide. This is completely backwards from the way this sensitive matter should be handled.

As you might expect, wireless internet technology is continuing to advance and by 2009 a scheme called WiMax is expected to become available and provide higher performance as well as longer ranges. If Los Altos Hills does not get its wireless system until then we might get a system with higher performance than ordinary Wi-Fi.

However WiMax will not be the “end of the line.” Within 5 to 15 years we can expect to have fiber optic connections to each neighborhood or large building, providing enormous bandwidth, together with wireless services that provide not only Internet connections but also telephone and television services. Instead of the hundreds of TV channels currently available via satellite there will be millions of channels on the Internet. It likely will be a tough choice to figure out what to watch.

## Reference

[1] Wireless Silicon Valley, “Request for Proposals for A REGIONAL BROADBAND WIRELESS NETWORK FOR SILICON VALLEY”, April 28, 2006, Section 2.2.12.8. This is accessible at <http://www.jointventure.org/programs-initiatives/wireless-silicon-valley/resources.html> .