

Wireless “Hotspot” Implementation Plan

Table of Contents:

<u>Contents</u>	<u>Pages</u>
Executive Summary	2-3
Implementation Plan	4-11
Appendix A: Best Practices for Wireless “Hotspot” Implementation	12
Appendix B: Acceptable Use Agreement, Limitations & Disclaimers	13
Appendix C: Survey of Other Libraries' Wi-Fi Hotspot Configurations	14-15
Appendix D: Survey of Other Libraries' Wi-Fi Hotspot Configurations	16
Appendix E: Rollout Schedule	17-18


 CONTRA COSTA COUNTY LIBRARY
Wireless Planning
Contra Costa County Library

Executive Summary:

The Contra Costa County Library is committed to the mission of connecting library users with information. An increasingly popular way for users to connect to online information is through the use of portable devices, such as laptops, PDAs¹, and smart phones. Wireless (wi-fi hotspot) connections to the Internet are currently provided in a range of customer-friendly organizations from Starbucks to McDonald's. By allowing users to connect to online resources via their portable devices, wi-fi hotspots support the library's mission.

Setup Summary:

- The wi-fi hotspot's traffic must be separated from mission-critical network traffic
- Hotspots should be planned with a 6-10 weeks' lead time for rollout, depending on circumstances (sites being done in blocks will only require this lead time for the entire block of sites)
- Wi-fi hotspots will cost approximately \$750-\$2500 setup/site (each hotspot handles up to 50 devices in a maximum 150-300' radius)
- "Captive portal" must be used to ensure acceptance of Use Policy (& authentication, if desired)
- Users experiencing difficulties with their portable devices should be pointed to a troubleshooting guide; additional problems cannot & should not be supported by library staff
- Telecommunications to be used: (1) Seren or other freely supplied cable/DSL connection (contract required); or, (2) the library's telecommunications, if no freely supplied 3rd-party ISP service is available **and** if the bandwidth is deemed to be adequate; or, if neither or these are available, (3) a for-fee 3rd-party ISP connection (cable/DSL)

Summary of wi-fi hotspot configuration models:

	Unfettered wi-fi hotspot access: no restrictions	Wi-fi hotspot access with time limit system only	Wi-fi hotspot access with patron authentication & time limits
Setup Cost:	\$750	\$1200	\$2500
Pros:	<ul style="list-style-type: none"> • Positive public relations for library • May seem more "grant-worthy" if unfettered access • Less work and expense for library • No need to worry about patron confidentiality, as there will be no tracking system • Can be done as a "pilot project" 	<ul style="list-style-type: none"> • Positive public relations for library • Time limits may prevent users from crowding out patrons • Less expensive & complex than running patron authentication • Time limits without authentication give visitors internet access on par with access to titles on shelf (can use in-house only) • Can limit bandwidth per user • May be leveraged as a source for revenue 	<ul style="list-style-type: none"> • Time limiting & patron authentication should prevent abuse of library service • Authentication facilitates user tracking which could mitigate criminal liability & increase network security • Can limit bandwidth per user • No taxpayer concerns • May be leveraged as a source for

¹ Personal Digital Assistant; handheld devices with computing capabilities, such as the Palm™ and PocketPC™


 CONTRA COSTA COUNTY LIBRARY
Wireless Planning
Contra Costa County Library

Cons:	<ul style="list-style-type: none"> • Some users may crowd out library regulars to use free internet access • Some users may abuse free bandwidth • Without tracking, liability for criminal acts & security risks may be increased • May create technological divide: users with wi-fi devices would not have to go through time/print management system • If time limits and/or authentication are eventually put in place, will changes create complaints? • Possible taxpayer concern about non-taxpayers using service • May be limited by contract, if using 3rd-party ISP 	<ul style="list-style-type: none"> • Entails more staff work than unfettered access • May appear less friendly than unfettered access • User may repeatedly sign on, depending on setup • Taxpayer concern about visitors using service • No means of tracking users may mean increased criminal liability & threats to network security • May create technological divide: users with wi-fi devices would have additional access options beyond those of other patrons 	<p style="text-align: center;">revenue</p> <ul style="list-style-type: none"> • More time, expense, and complexity in system setup • May require system to setup “temporary cards” if staff need an exception to authentication process • May appear less friendly than unfettered access • Concerns about patron confidentiality due to tracking
--------------	---	---	---

Additional Notes:

Cost using for fee 3rd-party ISP (if not provided freely through another agency, such as a city government)
 + \$250/ installation + \$660/ annual fee

Wireless Access to the Internet - Wi-Fi Hotspot Implementation Plan

Wi-fi is short for "wireless fidelity". It is a wireless networking technology for PCs and PDAs that allows multiple devices to share a single high-speed Internet connection. It can also be used to network a group of PCs without wires. Wi-Fi is spreading like wildfire in homes, offices and public places such as coffee shops, hotels and airports².

A "hotspot" is a location where wi-fi access to the internet is available.

Library's Mission Statement:

"The Contra Costa County Library brings people and ideas together"

The Contra Costa County Library is committed to the mission of connecting library users with information. An increasingly popular way for users to connect to the Internet is through the use of portable devices, such as laptops, PDAs³, and smart phones. Currently, the library does not allow users to connect their devices to the network. Adding this capability would mean providing library users with an increased level of access to the Internet and online resources. For example, users could:

- access the library's web resources, including, but not limited to: the library's online catalog, ebooks (e.g., Overdrive, NetLibrary, SafariTech, TumbleBooks), commercial databases, the library's website, Ask online reference services
- download information directly onto their personal digital devices (laptops, PDAs, smart phones, MP3 players, etc.)
- work for long periods of time without preventing others from accessing public machines
- work on their own devices without the same level of restrictions necessarily imposed on the public machines
- access email (but leaving no concerns as to patron privacy and/or email-based viruses hitting the network)
- use the online "chat" or other services that enhance their online experience with minimal impact on the library system
- do homework more easily, by importing and creating information directly on their own devices while using the library network
- access programs and functions that are not appropriate, or are difficult/slow to implement on public machines (e.g., if they want a specialized plug-in for the browser, the library does not have to mediate its installation)
- use the Internet with any specially adapted equipment they have installed on their own mobile device (e.g., visually impaired users with laptops using text readers - such as Jaws, etc.)

² (Accessed from www.prevalent.com/Pages/glossary.html, retrieved 1/3/05)

³ Personal Digital Assistant; handheld devices with computing capabilities, such as the Palm™ and PocketPC™

With wi-fi hotspots available in such locations as Starbucks, McDonald's, and airports, wireless internet access is a service that users have come to value and to expect in public settings. Many libraries in California and across the country are already providing this type of service. The creation of wi-fi hotspots enhances the public library's reputation as a technologically savvy, user-friendly destination.

Recommendations for "pilot implementation" :

- Begin service as "pilot project" in order to ensure flexibility in response to customer & staff feedback during rollout of service
- Pilot implementations should be rolled out without requiring patron authentication or charging fees for use of the service
- Pilot implementations should require patron acceptance of the use policy, as well as disclaimers and liabilities
- Use our telecommunications network unless partnering with a third-party provider (contract must allow for this type of service while minimizing potential for library liability) or unless bandwidth issues make use of the library's network impossible. In that case, the library should order a third-party broadband connection, such as cable or DSL.
- Plan & rollout hotspots as soon as possible (give Automation a 6-10 week lead time for most setups - includes equipment purchase, configuration, testing, deployment, and on-site testing), within parameters of plan prioritizing by community need/patron wishes/partnership opportunities
- Provide staff and patron information/education
- Publicize the project
- Alter implementation plan as needed to respond to feedback (e.g., add in authentication, if desired)

The "Pros" of providing this service would include:

- Increased library user access to online information
- High-profile, positive publicity for the library; goodwill of the community
- Opportunity for partnerships with other key players in the community (e.g., working with Concord's city government and Seren)
- Maintaining the library's reputation as a technologically innovative environment
- Increased awareness, usage, and support for library services

The "Cons" of providing this service include:

- Expense (expect at least a \$750-\$2500 first-year cost per site for setup)
- Potential for user abuse
- Potential for disturbances within library
- Potential for security issues
- Potential for bandwidth problems

The last four “cons” can be mitigated, at least partially, by the required acceptable use agreement.

Goals and objectives:

The implementation of wi-fi hotspots in branch libraries meets strategic planning goals as follows:

- A. Reading: The library will compete successfully with bookstores, publishers, and non-reading leisure activities to become a leaders in:
 - a. Introducing children to books and preparing them for reading as a lifelong habit
 - b. Fulfilling people’s appetite for independent pursuit of knowledge and their desire for satisfying recreational reading experiences, and
 - c. Promoting literacy

Bookstores today offer an array of attractive, value-added services for their customers, such as wi-fi access to the Internet. The addition of wi-fi hotspots in the library enhances its reputation as a destination for readers at all levels, allowing it to compete more successfully with bookstores. Additionally, the use of a “captive portal” that routes users through our homepage is an opportunity to highlight titles in the collection that the wi-fi user may be interested in reading.
- B. General Information: The library will compete successfully with the Internet, television, newspapers, and other general information service providers to become a leader in:
 - a. Encouraging adults’ curiosity
 - b. Providing adults the means of discovering information and answers to questions on a broad array of topics

The goal of providing access to information will be vastly improved by the addition of wi-fi hotspots, which make the library’s web-based resources more visible and accessible to patrons.
- C. Branding: the library will establish a clear, consistent, recognizable, and positive “brand” identity that helps both staff and public to:
 - a. Identify the many components of the county library system as parts of a single system
 - b. Recognize the scope of services that are available to them from the county library system
 - c. Value those services and associate them with positive attributes such as quality and fairness, and
 - d. Know what to expect when they enter the county library system at any service point

The addition of wi-fi hotspots enhances the “brand” reputation of the library, by associating it with innovative, desirable technologies. It can also raise the users’ awareness of the array of services their library offers.

Responsibilities:

Respectfully submitted by Sharon Clapp

Automation is responsible for the implementation of the wi-fi hotspots. Library staff members are not responsible for the devices hooking into the hotspot unless they are library-owned devices (i.e., Automation will not provide tech support on private owners' laptops, PDAs, etc.). They are not responsible for telecommunications issues resulting from the use of a third-party ISP, though they can serve as a conduit for contacting that ISP, if needed and appropriate. If the library itself provides the telecommunications for the wi-fi hotspot (through DOIT), Automation will be responsible for the telecommunications functionality.

Process for Implementation:

Allow anywhere from six to ten weeks for implementation of a wi-fi hotspot, unless it is part of a rollout to multiple branches (e.g., all equipment is ordered and configured simultaneously), which will reduce the time it takes for individual sites to be setup. Eight to ten weeks will be required if using a third-party ISP (assuming connection is not already live). Branches will need an adequate infrastructure and physical environment to support the wi-fi hotspot. Automation will have to examine branches to determine if a branch can handle hotspot deployment. If there is inadequate electrical or data hook-ups, the site will require upgrades before the implementation can go forward.

Steps to take before pilot projects go live:

- Make sure acceptable use policy, statement of limitation of liability, and disclaimers are all created and accessible from gateway
- Make sure the support site / FAQs webpages are available from the web (printouts can be provided for patrons)

Steps to take for all sites using a 3rd-party ISP:

- Ensure that contract/acceptable use agreement with 3rd-party ISP permits public hotspot usage (ask for acceptable use agreement at or before the time service is ordered, examine and revise, as needed)
- Ensure that 3rd-party ISP connection and equipment are in place (order, if necessary - allow 6-8 weeks)

Steps to take for all sites:

- Do site survey (seek best locations for electrical, data, transmission; map; note any special requirements or problems - e.g., need to pull data/electrical or the need to use a specific channel to avoid interference) (Automation - allow at least 10 weeks, have necessary information available for 3rd-party ISP re: location for telecommunications termination and equipment before ordering)
- Order any necessary services (e.g., pulling of data/electrical) (Automation) (allow at least 6-9 weeks)
- Order D-Link Gateway (Automation) (allow at least 5-7 weeks)
- Order wireless access point (Automation) (allow at least 5-7 weeks)
- Order any necessary miscellaneous equipment (e.g., if using receipt printers as part of authentication process) (Automation) (allow at least 5-7 weeks)

CONTRA COSTA  COUNTY LIBRARY
Wireless Planning
Contra Costa County Library

- Configure and test gateway and access point in Automation (Automation) (allow at least 4-6 weeks)
- Field test gateway and access point (Automation) (allow at least 2-3 weeks)
- Choose a site point person (Branch chooses, 2-4 weeks before go live)
- Instruct branch staff members about the service (Automation) (1-3 weeks before go live)
- Deploy wi-fi hotspot "live" (Automation)

Component Technology:

- Wireless-enabled laptop with NetStumbler for site survey testing (best locations for WAPs, potential interference, signal strength)
- Internet connection
- Telecommunications equipment (e.g., 3rd-party ISP cable modem/DSL router)
- Wireless equipment:
 - D-Link AirSpot Public/Private Wireless Gateway
 - Wireless Access Point (WAP)
- Acceptable Use Agreement (through captive portal or gateway)
- Receipt printer (if needed for patron time limiting, see discussion of potential WAP implementations) [optional]

Budget:

- \$500/site Wireless Gateway - 1 time cost - Current spec's are 802.11b/g
- \$250 Wireless Access Point (WAP) per 50 users/ 300' max.; spec's 802.11 b/g (signal range may be reduced by factors such as furniture, walls, ceilings, and other device interference)
- \$400/site WAP receipt printer [optional]: for limited user authentication/time limits (must be compatible with WAP purchased for site) - 1 time cost
- If using separate ISP:
\$55/month ISP (based on starter static IP-based DSL package offered by SBC) + \$250 telecomm setup fees - per site

Minimum cost wi-fi hotspot setup

\$500 for Dlink Wireless Hotspot Gateway (DSA-3100) - 1 time cost per site
\$250 for Dlink Enterprise 2.4GHz (DWL-1000AP+) Wireless Access Point - 1 time cost per 50 users / 300' max. range

Specifications of this minimal cost setup:

- using existing network & telecommunications structure
- not using patron authentication or time limiting through receipt printer
- having any/all portal (for Acceptable Use Policies) features built into the WAP gateway

Total = \$750


 CONTRA COSTA COUNTY LIBRARY
Wireless Planning
Contra Costa County Library

3rd-party ISP (not using the library's existing DOIT-based connection) cost

SBC Yahoo! DSL Starter-S Package

	One-Year Term	Month-to-Month
Monthly Fee	\$54.95	\$54.95
Equipment	\$199 Router or \$199 Office Gateway with \$199 Instant Credit (taxes apply)	\$199 Router or \$199 Office Gateway (taxes apply)
Installation	\$250 technician installation	\$250 technician installation
Activation	Free	\$50 - Waived if you order online

(Source: http://www02.sbc.com/DSL_new/content/1,,91,00.html - retrieved 1/4/05)

Estimated total cost per branch using a third-party ISP, with timeout/receipt-based authentication

- \$500 Dlink Gateway
- \$250 Dlink WAP
- \$400 Dlink hotspot receipt printer for time limits
- \$250 Installation of SBC DSL (starter static IP package)
- \$660/year = first year SBC DSL (starter static IP package)

1 st year	1 x Gateway purchase	\$500
1 st year	1 x WAP purchase	\$250
1 st year	1 x receipt printer	\$400
1 st year	1 x third-party ISP installation	\$250
1 st year	Annual cost of third-party ISP service	\$660
2 nd year	Annual cost ISP service	\$660
3 rd year	Annual cost ISP service	\$660
		\$3380

Annual cost averaged over 3 years = \$1126.67

Full-featured wi-fi hotspot (patron authentication, time limits, bandwidth controls, captive portal technology, etc.):

To deploy a hotspot that can support time limits, authentication of patrons against the library system's patron database, tracking of patron use, bandwidth throttling, and a "captive portal" (requires the user to be routed through an Acceptable Use Agreement before allowing them to connect), the one time setup price would = \$2500

Best Practices:

The creation of wi-fi hotspots should not create undue excess work for staff. Technical support costs & time should be minimized as much as possible. Using other libraries' wi-fi setups as models, here are some suggested best practices:

Library Setup:

- Provide Internet connection that is separate from the remainder of the library network (to avoid bandwidth and security issues); 2 possible routes
 - (1) Separate ISP
 - (2) VLAN - separation of networks using the same infrastructure & telecomm - public hotspot versus private library networks
- Test signals & potential interference; find secure and appropriate physical location for WAP; when WAP information is available, add the frequency/range of hotspot into a Visio map of branch; add wireless equipment to inventory list, and tag equipment as appropriate
- Use DHCP (configure in WAP) for internal users connecting to WAP
- [Optional] Use static ip number for all traffic using WAP & register with commercial database vendors
- Create the website supports
 - Create or update existing Acceptable Use Agreement and Statement on Limitation of Liabilities for users
 - Use a "captive portal" or gateway to require users to agree to the Acceptable Use Agreement & accept the Statement on Limitations/Liabilities before the hotspot will allow user access
 - Technical support/troubleshooting page should be posted on website for patrons and documentation should be posted on the on intranet for staff
- Publicize/Awareness campaign
 - Educate staff
 - Promote on website
 - Send out press releases
 - Send out notice on email newsletter
 - Add to lists of wi-fi hotspots for communities

Considerations for future deployments:

At some point in time, additional features of the hotspot system may be of interest, such as:

- Patron authentication (may be able to do this through CARL's Webcheck module, SIP2, or D-Link system using receipt printer)
- Use of time/print management software to create for fee printing for hotspot users
- Time-outs for hotspot sessions
- Use of Power over Ethernet for WAPs (to increase flexibility of WAP location & decrease need for power outlets)
- Loan of portable devices, such as wireless laptops to facilitate wi-fi use for patrons who do not own laptops
- Deployment of printer for hotspot-linked devices
- Use of hotspot for staff (e.g., for checking home email/Internet resources while on breaks)
- Creation of website friendly to smart phones, PDA's, etc.

Conclusion:

The benefits of implementing wi-fi hotspots outweigh the concerns associated with the project. While the questions of policy (e.g., patron authentication and time limiting vs. unfettered access) have to be considered, the service should be rolled out on a "pilot project" basis as soon as possible. Each library brought online will provide us with valuable feedback that can be worked into the implementation plan. While technology in this area is developing rapidly, the library cannot wait for innovation to plateau before it begins to implement the wireless solutions already being sought by its patrons.

Appendix A: Best Practices for Implementation

Best Practices for Wireless “Hotspot” Implementation:

- Site survey (testing & mapping (Automation)) – create plan for location of access point & laptop users
- Ensure that a webpage for troubleshooting & use guidelines is up on our website
- Run the pilot projects without using patron authentication or time limitations
- Use 802.11g WAPs (for b/g compatibility)
- Telecommunications to be used: (1) Seren or other freely supplied cable/DSL connection (contract required); or, if no such connection is available, (2) the library's telecommunications, only if the bandwidth is deemed to be adequate; or, if neither of these options are available, (3) a for fee 3rd-party ISP connection (cable/DSL).
- Require user to agree to Acceptable Use Policy before they are able to use the connection – include limitations & disclaimers
- Staff (neither branch nor Automation) will not support the devices patrons use for wireless access; they will only offer users information via a document & FAQs about basic setup & troubleshooting. This document will be posted to our website for reference purposes and can be made into handouts/flyers.
- Automation will work with the branch staff at the pilot locations; one person at each branch should be designated as the point person for Automation to work with on the pilot project

Appendix B: Acceptable Use Agreement, Disclaimers & Limitations

Acceptable Use Agreement -- Wi-Fi Setup

Rules for Internet Usage (modified from <http://ccclib.org/policies/webrules.html>):

- No one from the library can provide you with technical support on your connection to the Internet via the wireless hotspot, nor can they aid you in any way with your device.
- No more than two people are allowed per workstation.
- The Library's workstations are in public areas. Since others may be involuntarily exposed to what is viewed, the Library asks that each user exercise good judgment and consideration of others. If library staff become aware of subject matter that would interfere with the maintenance of a reasonable and comfortable environment for the public, the Internet user will be asked to end a search or change a screen.
- The Library wishes to make the Internet and all computer resources available to anyone who respects the rights and property of others, and who abides by these procedures. Failure to consider the rights of others may lead to the loss of computer privileges for a finite period.

The Contra Costa County Library is conducting a pilot project that will provide wireless access for users of wireless-enabled devices (such as laptops).

Contra Costa County Library is providing this service at no charge for users who accept the Acceptable Use Policy, and subject to the following limitations & disclaimers.

Limitations & Disclaimers:

- Library staff members and volunteers will not provide technical support on either your connection to the Internet or the device
- Wireless access to the Internet is provided free of charge with no warranty or guarantees.
- Use of this wireless access point offers no security, encryption, or protection of any kind for users' data or PCs.
- The library assumes no responsibility for the safety and/or functionality of your personal device and any components related to the device.
- There is a limited range for our wireless access point and different devices have different antenna strengths and receiving capabilities. We do not guarantee that you will be able to access the Internet from any specific location.
- In using this free access to the Internet, I agree and hereby release, indemnify, and hold harmless, Contra Costa County Library, the county, its officers and employees, and any affiliate, from any theft, damage, malfunction, or loss that may result from my use of this wireless access (this applies to personal identity, data, or to physical devices and their peripherals; additionally, it relates to threats from phishing, hacking, viruses, spam and other Internet-related dangers).
- While using this wireless access, I acknowledge that I am subject to, and agree to abide by all laws, and all rules and regulations of the Contra Costa County Library, the county, the state of California, and the federal government that are applicable to Internet use.
- At its sole discretion, the Contra Costa County Library and Contra Costa County may terminate this public service at anytime without prior notice.
- Printing is not available via the wireless connection at this time.
- The library reserves the right to limit or prohibit access to the wireless service and to do so to any user, at any time, for any reason.
- The library does not intentionally keep a log of use of the wireless service, however the library makes no claims as to wi-fi hotspot users' privacy. The library will turn over data (or equipment which may hold data) to external organizations as required by law.

Appendix C: Instructions for Wi-fi Users

Connecting to the Wireless Network for Internet Access

Connecting to the network requires a wireless enabled device, such as a laptop, that is in synch with the protocol that our wireless network uses. Devices that support the wi-fi standard – IEEE802.11b/g – should be able to use the wireless Internet connection.

Finding the Library’s Hot Spots:

To find the library’s hot spots, click on your wireless icon in the taskbar
If no icon is present:

- Click Start, Settings, then choose Network connections
- Right click on Wireless Network Connection and then click View Available Wireless Networks (a list of wireless access points appears in the Available Networks box)
- Click the XXXXXXXX (SSID) wireless connection
- Click Connect

Making the Connection to the Library’s Hot Spots:

(DHCP must be enabled. If you cannot connect, check on this setting via the instructions provided in the troubleshooting section.)

Windows OS:

- Right click on “My Network Places/Network Neighborhood”.
- Go to Properties
- Double-click “Wireless Adapter” (or simply click on your vendor icon for the wireless adapter in the lower right-hand toolbar).
 - o SSID (network name) = XXXXXXXXX and a DHCP address will be allocated automatically
 - o WEP = disable WEP encryption
 - o Mode or Network Type = Infrastructure mode or access point
- Restart (reboot) the computer (this is not a requirement with Windows XP).
- Open a web browser

MAC OS:

- Click on System Preferences from the Apple Menu
 - Double-click the Network logo
 - Under Show Menu select AirPort
 - Close window
 - Open Internet Connect and turn on AirPort
 - From Network Menu select XXXXXXXXXX (SSID)
- Open a web browser

[For more on how to work with wireless via Mac OS 9, go to <http://www.jiwire.com/wi-fi-os-setup-mac-os-9.htm>

For more on how to work with wireless via MAC OS X, go to <http://www.jiwire.com/wi-fi-os-setup-mac-os-x.htm>]

Troubleshooting Network Settings:

Your device must be set to accept an IP address automatically (DHCP). You will not be able to connect to the wireless-enabled device, unless it is setup to handle DHCP. Here are instructions on how you can check on that setting & how you can modify it to work with the hotspot:

Windows 2000 & XP (You may need administrative access to your laptop to change these settings)

- From Control Panel, select Network and Dial-up connections or Network and Internet Connections > Internet Connections
- Right click Wireless Network Connection or Local Area Connection, choose Properties
- Locate the TCP/IP protocol and open its properties (if more than one TCP/IP protocol is listed, look for the one associated with your wireless adapter)
- Select (or make sure it is already selected) Obtain an IP address automatically and Obtain DNS server address automatically
- For XP, right click Wireless Network Connection and select View Available Wireless Networks
- Select the name of a wireless network XXXXXXXXXXXX (SSID) and click Connect

Windows 98

- From Control Panel, select Network
- Locate the TCP/IP protocol and open up its Properties (if more than one TCP/IP protocol is listed, look for the one associated with your wireless adapter)
- For IP Address, select Obtain an IP address automatically
- For DNS, select Disable DNS
- For WINS, select Use DHCP for WINS Resolution

Windows NT (You may need administrative access to your laptop to change these settings)

- From Control Panel, select Network
- Locate the TCP/IP protocol and open its Properties (if more than one TCP/IP protocol is listed, look for the one associated with your wireless adapter)
- Select Obtain an IP address from a DHCP server and click OK

Internet Explorer Tips

(Depending on your version of software, there may be variations in these procedures.)

- From Control Panel, select Internet Options > Connections tab
- For those with a dial-up connection, do not set it to Always dial my default connection
- LAN Settings should be Automatically detect settings and leave the proxy server settings blank

Appendix D: Survey of Other Libraries' Wi-Fi Hotspot Configurations

Wi-Fi Hotspot Setups	Authenticated?	Fee/Free?
SFPL	No	Free
Anaheim Public Library	No	Free
Solano County Library, SNAP	No	Free
St. Joseph County Library, IN	No	Free
Kansas City Public Library	No	Free
Johnson City Public Library, TN	No	Free
Seattle Public Library	No	Free
San Diego P.L.	No	Free
Chicago P.L.	No	Free
San Mateo County Library	No	Free
Santa Clara City Library	No	Free

Authentication and/or Fees for Wi-Fi Hotspot service:

None of the libraries I checked with were using patron authentication and none were fee-based services. These libraries, however, require users to read the acceptable use policy and to accept the disclaimers and limitations of liability statements.

Different Telecommunications Models for Wi-Fi Hotspots:

In the case of most libraries surveyed, the libraries themselves were the ISP's for their hotspots. They used their own telecommunications, and various network separation techniques, such as creating separate Virtual Local Area Networks (VLANs) for their wi-fi users.

Anaheim was a notable exception to that trend. They are using a DSL connection to support their wi-fi hotspot, separate from their other telecommunications. Most, but not all, libraries seem to use bandwidth throttling to limit the impact of hotspot traffic on the library's bandwidth.

Broadband vendors' acceptable use policies may prohibit the library from connecting wi-fi hotspots to their (e.g., cable or DSL) services. If the AUPs do not prevent this type of usage, either cable or DSL can be used, depending on the service that is available in a given branch's area.

Telecommunications to be used for Contra Costa County Library: (1) Seren or other freely supplied cable/DSL connection (contract required); or, if no such connection is available, (2) the library's telecommunications, only if the bandwidth is deemed to be adequate; or, if neither or these options are available, (3) a for fee 3rd-party ISP connection (cable/DSL).

Appendix E: Rollout Schedule (rev. 5/24/05)

Process for Implementation:

Allow at least 6-10 weeks for implementation of each site or set of sites, when similarly configured. The details on timing are found below.

Pilot projects - preliminaries:

- Make sure acceptable use policy, statement of limitation of liability, and disclaimers are all created and accessible from gateway
- Make sure the support site / FAQs webpages and handouts are available from the web (printouts can be provided for patrons)

Sites using a 3rd-party ISP:

- Ensure that contract/acceptable use agreement with 3rd-party ISP permits public hotspot usage (ask for acceptable use agreement at or before the time service is ordered, examine and revise asap)
- Ensure that 3rd-party ISP connection and equipment are in place (order, if necessary – allow 6-8 weeks)

All sites:

- Do site survey (seek best locations for electrical, data, transmission; map; note any special requirements or problems – e.g., need to pull data/electrical or the need to use a specific channel to avoid interference) (Automation – allow 6-10 weeks, have necessary information available for 3rd-party ISP re: location for telecommunications termination and equipment before ordering)
- Order any necessary services (e.g., pulling of data/electrical) (Automation) (allow 6-9 weeks)
- Order D-Link Gateway (Automation) (allow 5-7 weeks)
- Order wireless access point (Automation) (allow 5-7 weeks)
- Order any necessary miscellaneous equipment (e.g., if using receipt printers as part of authentication process) (Automation) (allow 5-7 weeks)
- Configure and test gateway and access point in Automation (Automation) (allow 4-6 weeks)
- Choose a site point person (Branch chooses, 2-4 weeks before go live)
- Field test gateway and access point (Automation) (allow 2-3 weeks)
- Instruct branch staff members about the service (Automation) (allow 2-3 weeks)
- Deploy wi-fi hotspot "live" (Automation)

I. Seren (3rd-party ISP) pilot sites:

- Concord
- Ygnacio Valley
- Walnut Creek

II. Existing telecommunications pilot sites:

(if bandwidth issues resolved... if not resolved, order 3rd-party ISP broadband service)

- Danville
- Orinda
- Pinole
- Dougherty Station Library (this joint-use facility will open in August 2005 with a wi-fi hotspot already in place)

III. Post-pilot sites:

Once pilot projects have been evaluated, revise implementation plan as necessary. Roll out to the remainder of branches by geographical region, pending site survey results. Libraries that need additional work on site infrastructure (data/electrical lines) will likely be delayed what the work is done.

West: Kensington, El Cerrito, San Pablo, El Sobrante

Respectfully submitted by Sharon Clapp

17

CONTRA COSTA  COUNTY LIBRARY
Wireless Planning
Contra Costa County Library

Central: Central, Martinez, Lafayette, Moraga

South: San Ramon

East: Brentwood, Antioch, Pittsburgh, and Clayton

Probable exclusions:

The following sites are either too small, or, in the case of Oakley, are located in a place where wi-fi hotspot regulation would be difficult and problematic, to be included in the wi-fi hotspot rollout. This is our preliminary evaluation and is subject to change pending further discussions.

- Bay Point
- Crockett
- Hercules Swim Center
- Rodeo
- Oakley