



Wireless Silicon Valley:

Building "Net 2.0"

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Today's Broadband Network

- Tied to a wire or hotspot (except EVDO, ...)
- Few free access points
- Need multiple accounts
- Speeds and security vary
- Police, sheriff, and fire departments use expensive licensed frequencies
- Not suitable for disasters





Got Net?



"Net 2.0"

• <u>Mobile</u>

- Pervasive
- Fast, Flexible, Reliable
- Tiered pricing for services
- Disaster ready
- Built into many devices
- From "triple play" to ...



Home Run!



Voice Video Data Mobility





Assume the Network!





Vision of a Wireless Silicon Valley

- Cover all 1,500 square miles outdoors with high-speed, wireless, data network.
- Seamless interoperability and mobility
- Serve
 - 1. Public agencies, including libraries, community centers, utilities, parking meters, public transportation
 - 2. Fill in broadband coverage gaps, underserved areas
 - 3. Provide visitors, local businesses with easy access
 - 4. Provide residents with an alternative provider(s)



A Mixed Use Network



Thanks to Aptilo for visual elements in this slide.







Elements

- The right technology for the job.
 - WiFi, WiMax, Zigbee, EVDO, HSPDA (GSM), Bluetooth, ...
- Free and fee-based services. Sustainable business models.
- Local governments as the anchor tenant, not as operator. (exceptions?)
- Quality of service and security protections for public safety workers.
- Customer service protections, including bonds for removal of equipment.





A Sustainable Business Model

- For-profit owner/operator(s)
- Wholesale service to Internet Service Providers (?)
- Service tiers (?)
 - Free: low speed, advertising supported
 - Fee: high speed, no ads
 - Higher fee: faster, VPN, VoIP
 - Highest fee: QOS guarantees for police, fire; video
- Use of poles fee or free (?)
- Oversight provided by regional authority (?)
 - Small staff funded by operator.
- Network neutrality; standards based



Benefits

- Convenience, convenience, convenience
- Fewer trips to headquarters/office to file reports, get work orders, get documents
- Information on local resources based on where you are standing
- Attract more visitors and businesses because of the convenience
- Connectivity while on the move
- Quick, low cost, addition of devices
- Provide an alternative provider for cell phone and Internet services



WiFi Phones

Wireless G Flip-Style Wi-Fi Mobile Phone

Make VoIP Calls Anywhere There Is A Wi-Fi Hot Spot Connected to the Internet





Announced at VON last week by D-Link. TelTel partner.

Motorola CN620 GSM/WLAN Phone

This will take time to deploy. Lots of issues with jitter, latency.





Inspiration for New, Mobile, Devices







AP/Wide World Photo

Origami



<u>الا</u>	Applications
Energy	eGovernment eGovernment corporate Guest Access public Safety public Safety eHealthcare eHealthcare eAdvertising eAdvertising eTourism eTourism
Layer	3 Value Added Services Plug-Ins
Layer 2 Service Management / Access Control	
Layer A. Me	1 Access / Coverage sh outdoor B. WiFi indoor (corporate) C. Local Hotspots (e.g. Airports) D. WWAN





Wireless in Silicon Valley Today

- Many, many hotspots #1 or #2 in the U.S.
- San Mateo, Milpitas have mesh networks for police departments
- Mountain View getting network from Google
- Sunnyvale, Mountain View, Cupertino, Santa Clara have signed non-exclusive agreements with MetroFi for residential service
- San Jose expanding downtown network
- Silicon Valley Regional Interoperability Project for disaster preparedness



Challenges

- Attracting a vendor despite a glut of RFP's on the market
- Cost of deployment \$225 million?
- Many jurisdictions involved
- Evolving technology
- Interference with WLANs
- Fee-based hotspot operators, hotels, WISPs
- NIMBYs concerns about aesthetics and health effects





What We Bring to the Table

- Large, unified, tech-savvy, market
- Anchor tenant agreements (?)
- Streamlined access to poles, towers, and power
- Access to city-owned fiber optic networks
- Regional governance





Wireless Silicon Valley Task Force

Mission

 Help cities and counties develop and implement wireless strategies more rapidly, and achieve Valley-wide interoperability.

By

- Collecting, analyzing and sharing best practices
- Developing a shared vision
- Evaluating technologies
- Developing business models
- Joint procurements
- Developing communications materials





Wireless Silicon Valley Task Force

- Co-chairs
 - Brian Moura, Assistant City Manager, City of San Carlos
 - Dan Fenton, President & CEO, San Jose Convention Center and Visitor's Bureau
- Members
 - City & County CIOs and IT managers
 - City & County Economic Development Managers
 - San Mateo County Telecommunications Authority (SAMCAT)
 - Silicon Valley Power
 - Santa Clara County Sheriff's Dept.
 - Silicon Valley Regional Interoperability Project
 - Advisors





Smart Valley Board Members

- Eric Benhamou, 3Com & Palm, Inc.
- Russell Hancock, JVSVN
- Bill Huber, AT&T
- Keith Kennedy, CNF
- Bill Miller, Stanford University (Emeritus)
- Brian Moura, City of San Carlos
- J. Marty Tenenbaum, CommerceNet
- Les Vadasz
- Mark Zielazinski, El Camino Hospital



•SM County and 16 cities •SC County •Palo Alto •Menlo Park •Gilroy •Morgan Hill •San Jose •Los Gatos •Santa Clara •Stanford Res. •Los Altos Hills •Milpitas •Newark •Santa Cruz





Current Activities

- Hired Intel Solution Services to develop RFP (\$44K) plus \$20K in-kind.
- SAMCAT will issue the RFP; other agencies can sign on.
- Raising funds from cities, counties; typically \$2,500 each. Already have at least \$44K.
- Organizing four focus groups.



Schedule

- Release RFP end of April
- Public event at release
- Proposals due in July
- Make recommendations to the cities and counties in September
- Construction





What You Can Do to Help

- Spread the word in your community about the project and vision.
- Tell elected officials that you want your community included in the program.
- Invent new products, services, and companies that will take advantage of Net 2.0!





Net 2.0

What will you do with it?





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go to the website for the Vision paper and news on the project