Recommendations

to streamline a

Broadband Wireless network

Oscar Libed, Clearwire

Quote from Tim Bajarin
(1/31/08 HBTF meeting)

Three key components in wireless networks:

1. WiFi - local area network architecture.

2. WiMax – this is a big question mark as far as long-term broadband capabilities. By the end of 2008, Intel will include WiMax radio in every chip they sell in a mobile computer. The assumption is we can have tens of millions of laptops that are WiMax ready by 2009. The big problem today, the only two companies (Clearwire and Sprint), push the WiMax architecture. <u>The biggest concern for a state like Hawai`i and some of the smaller states is getting WiMax provider to ensure they actually consider you as part of build-out.</u>

3. 3G and 4G cellular – most of the major big cellular companies are not going to buy WiMax. Verizon clearly stated they are staying with LTE, the next generation of their architecture as well as AT &T. <u>Again, the question is getting them to support Hawai`i as they do their build-out</u>.

Site Acquisition Phases

1. Leasing takes 2-3 months

2. Simple Zoning takes 2 months. Complex Zoning is 1-2 years.

3. Building Permits (BP) takes 3 months. BP modifications is indefinite.

4. Overall, it takes at least 7 months to over a year to start construction…too long for "impatient capital".

Recommendations

1. Approve State and County <u>properties</u> for wireless sites as a State-wide policy. (Also, Federal sites like HUD buildings.)

2. Approve <u>Templates</u> for State and County licenses
    - Why re-invent the wheel in the AG office?

3. <u>Prioritize</u> zoning and BP applications.
    - Can it be done faster than 5 months?
    - Do in parallel instead of serial process.
    - BP modifications should not be indefinite timeframe

Recommendations

4. Neighborhood Board requirement for presentation of new site <u>needs to be modified</u>. It is a serial process that can be in parallel. NIMBY is the common theme.

5. Rural areas easily served with wireless sites, but need poles on government lands. Need to identify <u>collocation sites</u> for all carriers. Collaboration between carriers and DOT for H3 site is a good example.

DRAFT Hawaii Broadband Task Force Findings and Recommendations

13. "Wired or wireless?" is the wrong question to ask. Fiber optic cable provides the greatest capability with nearly-unlimited growth capacity to fixed locations, and wireless provides tremendous advantages in mobility as well as <u>more cost effective deployment for rural and remote areas.</u> In fact, most broadband wireless systems rely on wired capabilities for at least some of their backbone connectivity. The right answer for Hawaii is "wired AND <u>wireless</u>."