

**University of Utah Wireless Network Committee**  
**June 14, 2006 11:00 AM – 12:30 PM**  
**650 Kommas Drive Board Room**

Andrew, Kevin, Hang, Isaac, ? (ITS), Brad, Pieter, Nelson, Will, Jon, Steve, Bo, Mike Kwiatkowski, Chris, Rob, Michael, Bryan, Mindy, Joe (phone)

**Wireless Committee minutes**

**I. ITAC Proposal Review**

- uconnect.utah.edu Initiative  
allocation of IP space and routing won't change. Security section – requires valid University credentials, 802.11 standard for authentication and encryption: WPA & WPA2 (users can use either method) for key; encryption ciphers will be different than current dynamic WEP.  
Discussion: two kinds of keys used for different kinds of traffic. TKIP is the weakest standard. Andrew & Bo: Does TKIP need to be used in addition to CCMP for WPA2? CCMP gives the full benefit for WPA2 for pairwise key. Chris: WPA2 with TKIP is positive because it offers things like pre-authentication (faster handoff times), four-way handshake for services like voice over wireless. Removing TKIP removes a whole class of devices from using WPA2. Decision: carry on as previously planned with auth and encryption. Users of secure will be broken if they try to use uconnect in the same manner – both networks will be run in tandem to help with transition. **Users of secure will be redirected to a webpage with information on the change.** Timeline on the back.  
Suggestion: use the ITC definition of ubiquitous to help with the initiative as it goes to ITAC and then to ITC.
- hotspot.utah.edu Initiative  
suggestions:
  - specify what the IP space will/won't be
  - clarify that this isn't mandatory
  - with the stateful firewall, ftp should be okay
  - clarify what VPNs will be supported
  - PPTP? Let ISO decide
  -

Andrew will include suggestions. Both initiatives go to ITAC tomorrow afternoon. Hopefully they'll be approved first time. Thanks to the committee for its good work. The weekly meetings will change to bi-monthly or monthly with the Roaming Subcommittee picking up.

**II. Roaming**

- Committee Definition – engineering the uconnect network to meet the needs of the University. Wireless as stated by ITC is not in question, but roaming is. ITC defined roaming as “campus-wide, encrypted & authenticated, persistent connections in transit.”

A. Questions: what is transit? What is the speed we must meet? Shuttles, police cruisers can have an AP in the vehicle. Walking, skateboarding? Voice and data criteria? Kevin: campus is ready to support what the marketplace adopts for VoIP. Federal legislation for control of Internet connections – phone companies won't give up their market share. Higher Ed wants an exemption; time will tell. More questions: Layer 2 vs Layer 3 roaming? Dept VLANs?

B. Service provider perspective: wireless hardware. Multi-vendor solution – can roaming be done today? If we must go with a single provider, the university will have to make that business decision. Must resolve this. Chris: multi-vendor solution will give overlap, wireless cards will search out the best solution. No standard for how wireless card drivers should behave – will affect users' experiences negatively. Example: Centrino will ping pong when roughly equal distance between 2 APs. To avoid this, must not have the same SSID around campus.

C. User perspective: what is reasonable?

- laptops, PDAs, SIP, media players
- new technologies

D. Timeline issues:

sizeable investments will be made across campus – is it fiscally responsible to keep investing money if hardware issue isn't resolved. Nelson: suggests waiting on IEEE standard to come out. Joe: basic fundamental question: single vendor, multi-vendor when a standard comes out, or multi-vendor now. Why the urgency? Kevin could contact ITC and ask how important roaming is now – business decision. Discuss tomorrow in the first Roaming Sub-committee meeting. Bo suggests presenting this very question to ITAC tomorrow. Joe says this is really a statement to ITAC; the question is for ITC. Chris says a Task Force has just been formed for IEEE standards on roaming – probably 3 years out on a standard. Andrew will bring it to ITAC tomorrow with the two initiatives.

- Working Group Assignments

Roaming sub-committee will begin meeting weekly at 585 Komas. Mission: what is the best decision to meet the needs of the University. Do we start investing on July 1<sup>st</sup>, or wait until we have a better answer. Nelson: may want a needs assessment – big players like HSC may push the direction. Politics may, too. Kevin: have the Roaming sub-committee lay out issues for the policy groups. Lay out the facts from an engineering perspective. Bryan: ITAC meets tomorrow; ITC doesn't meet again until August; funds will be available July 1<sup>st</sup>. Should we go to ITAC tomorrow? Kevin: ITC must understand that there is already significant investment in various systems. Bo: ubiquity issue. Has anyone put together a business plan detailing costs for persistent connections across campus? Outdoor network antennae were significantly less than expected. About \$1500/tower antenna. What will it really take to provide coverage to (conceivably) all students? It is possible that this committee's research may go

back to ITC showing that ubiquitous roaming is an unfeasible plan. Jon: brought up support issues.

Sign up on sheet to participate in the Roaming Sub-committee. First meeting – tomorrow at 3:00 pm in this room (right after the ITAC committee).

Bo: thinks we should define the type of need we are trying to meet for the users. Laptop/PDA vs VoIP/SIP (future?). Chris: says it's already here (NetGear releasing a phone capable of 802.11/WPA/WPA2 for \$200). Kevin: all vendors are planning, waiting for SIP.

Andrew: any objections for the larger Wireless Committee to begin meeting monthly (rather than weekly)? Next meeting: second week of July? July 12<sup>th</sup>, 2006.