802 Handoff Call for Interest
- An Expression of Interest

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Why 802 Handoff

- Seamless roaming for users of wired and wireless networking is a desirable goal
  - But it is not a simple problem
    - Authentication
    - Security
    - Accounting
    - Handoff
    - MAC and PHY behavior

- An 802 handoff mechanism could provide building block to assist achieving this goal
  - Should deal at least with handoff, maybe more
  - Should not impede the implementation of other seamless roaming problems (auth, security, accounting)

Relationship to Other Activities

- 802.11 has roaming within an ESS
  - No standards level support for inter-ESS roaming
- 802.16 has roaming work in progress
  - Scope tending towards inter-operator roaming
- 802.3 Does not concentrate on roaming
  - But why not? I would like to roam between wired and wireless seamlessly
- 802.* Other group may interact with roaming differently (802.15?)

Handoff Support is Heterogeneous within 802

- Different groups provide a different level of tools for 802.11 roaming services.
  - Too much (802.16)
  - Too Little (802.3)
  - Just right (802.11?)
- Need to give direction on an appropriate level of service for roaming support
- An 802 level handoff group is an appropriate forum in which to do this

802 Handoff is a Security Problem

- Handoff is inextricably linked to security
  - A handoff requires users to reestablish an authenticated state
    - Re-authentication mechansisms
  - Handoff may be between independent providers
    - New accounting/billing agreements may or may not need to be established in real time
  - Security levels may need to be maintained across handoff events
    - Privacy, data hiding, anonymity, (non)repudiation, etc.
- Handoff work should be able to align and coordinate with any 802 security work
  - Linksec, 802.1x are aligned with 802.1.
  - 802 handoff fits with 'top of the MAC'/'management behavior'
- So 802.1 may be the natural environment for such work

Non 802 Handoff Issues

- Other networking technologies must not be impeded from interoperation through either standard or proprietary mechanisms

- So specifying a common 'roaming related' behavior to the 802 technologies will enable other technologies to know what to do
  - Mobile IP(v4/6)
  - 3GPP
  - Proprietary technologies
  - Operating systems

Potential Problems?

- May impact current work
  - 802.16 roaming might want to revisit inter-operator roaming
- May provide parallel mechanisms
  - Could we end up with parallel 802 and 802.something mechanisms that do the same thing
- QoS connection transfer may or may not be possible between certain MAC pairs
  - Maybe require negotiation/advertisement methods
- Study group would need to resolve these concerns

A Proposal for Targeting 802 Handoff work

- Form an 802.1 study group targeted towards forming an 802.1 handoff task group
- Aim to specify a set of common service like behaviors that 802 MACs can adopt
  - MAC SAP messages
  - MIB entries
  - Other?
- The study group should resolve the scope of the roaming related interaction that is appropriate and will work well with all MACs and PHYs
- Should work closely with linksec group to achieve a workable solution