

Scope and Proposed Work Items for the Handoff Group

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May 2003

Proposed Scope of the Handoff Group

- Catalog the requirements of hard and soft handoffs over heterogeneous 802 media, and develop the handoff mechanisms accordingly
 - Scope specific to PHY and MAC layers only
- Define the requirements and create handoff trigger abstractions for layer 3 and applications to reduce delays caused by PHY/MAC reassociations
 - In particular, layer 2 and below constructs for 802 technologies that could lead to lower overall handoff latency to enable real time applications

Suggested Work Items (1)

- Assess on-going work related to handoff in IEEE, IETF and 3GPP to identify the gaps, and the niche and opportunities of this Group
 - Layer 2 and lower (very preliminary)

802.11	802.3	802.16	802.20	802.15.3
802.11k		802.16e		
802.11i				
802.11f				
WNG/WIG				

- Above Layer 2
 - Seamoby
 - Trigtran
 - PANA
 - MIP
 - SIP
 - 3GPP (SA2)

Suggested Work Items (2)

- Build a taxonomy of L1 & L2 handoff requirements
- Build a list of standardizable elements/aspects of 802 HO
 - Provide requirements, for example, to TGk
- Based on IETF requirements for L3+ mobile routing protocols, develop a common abstraction for trigger requirements that are semantically similar across 802 technologies
- Liaise with IETF & 3GPP to comprehend L2 handoff requirements for handoff
- Study and determine requirements, if any, context abstraction and transfer between different 802 technologies
- Study and determine requirements, if any, context abstraction and transfer between 802 technologies and non 802 technologies

Suggested Work Items (3)

- Propose mechanisms to eliminate sources of L2 and below handoff latency
 - Simultaneous AP associations
 - Network planning: come up a recommendation of how to plan network coverage
 - Create AP constellations with aggregated controls
 - make associations very fast; only intra/inter channel beacon/probe processing
 - Keep another radio primed at all times - proactively handoff sessions

Suggested Work Items (4)

- Study and propose mechanisms to enable proactive handoffs at L2 and below and triggers for L3+
 - Pick AP with best connectivity characteristics (AP provides heuristic/statistical values, or APs determine collectively which one is most appropriate)
 - Use protocol between APs for state sharing
 - Examples: Pre-authentication; Proactive trigger - initiate things to do
 - Improve visibility to L3 handoff
 - For example: Earlier indications of impending inter-subnet handoffs

Not Suggested as Working Items

- Any layer 3 or above mechanisms (except for convergence procedures)
 - However, the requirements for convergence procedures can be a FFS (For Further Study) item
- Billing/Accounting mechanisms related to handoff
- Authentication methods

Motion

- To include the proposed scope and work items in the PAR.