Ad-hoc Meeting on Mobile Multi-hop Relay Networking in IEEE 802.16

Chair: Mitsuo Nohara

Time: 08:00 – 12:00, Tuesday, July 19, 2005

Place: Pacific A/Grand B

Objectives, This time

- To exchange the views on Mobile Multi-hop Relay Networking
- To have open comments and technical discussions
- To Form new Study Group
- To plan future activity and schedule

Agenda

1. Presentation on

   Mobile Multi-hop Relay Networking in IEEE802.16

2. Open Comments and Technical Discussions - Presentations
3. New Study Group Forming
4. Meeting Summary
5. Future Activity and Schedule

Mobile Multi-hop Relay Networking in IEEE 802.16

Keywords from Last Meeting:

- **Mesh or Relay ?**
- **Maximum number of hops ?**
- **Licensed or LE band ?**
- **PHY, MAC ?**

- Those covered in Ref.

Mobile Multi-hop Relay Networking in IEEE 802.16

*Reference Presentation (C80216-005_013)

Tentative Schedule

- **Starting new Study Group / Task Group**

Year	Month	802.16 session	Actions
2005	July	#38 Plenary	Propose to form SG – Approved
	Sept.	#39 Interim	SG: the 1st meeting
	Nov.	#40 Plenary	SG: the 2nd meeting
2006	Jan.	#41 Interim	SG: the 3rd meeting – Complete a PAR
	Mar.	#42 Plenary	802 EC endorses PAR approval
	May	#43 Interim	TG: the 1st meeting
	July	#44 Plenary	TG: the 2nd meeting
	Sept.	#45 Interim	TG: the 3rd meeting
	Nov.	#46 Plenary	TG: the 4th meeting

To Do List

- **At This Meeting**
  - **Meeting Summary for Closing Plenary**
  - **Proposal to form New Study Group**
    - **C80216-05_013 as Reference, including Schedule**
    - **Notes to the Reference**
    - **Supporter List to form New Study Group**
    - **New Study Group Organization**
      - **Mitsuo to Chair**
      - **Submission-form confirmed with WG Chair**

New Study Group Proposal

- **We, as listed on the supporter list attached, support the creation of a new study group on mobile multi-hop relay networking, which is:**
  - **referring to C802.16-05/013 as its discussion base,**
  - **with the notes attached to the reference,**
  - **aiming at preparing a new PAR and 5 criteria,**
  - **to start from next #39 meeting and**
  - **to be chaired by Mitsuo Nohara.**

New Study Group Reference and Notes

as of 19 July, 2005

Reference: C802.16-05/013
Notes:

- Relay mode may include multiple connectivity,
- Spectral Scenario will be studied at new SG,
- Interference coexistence and other relating things to be studied working with License-Exempt Task Group,
- Need activity watch on 802.1 bridge,
- Issues of Interest:
  - Hand over,
  - Technical Performance, and
  - Backward compatibility.

New Study Group Supporter List

as of 19 July, 2005

Mitsuo Nohara
Kenji Saito
JaeWeon Cho
JungJe Son
PanYuh Joo
HyeonWoo Lee
Nat Natarajan
Masahito Asa
Jose P. Puthenkulam
Ofer Kelman
Guo Qiang
Geunhwi Lim
Naftali Chayat
KyungJoo Suh
Shyamal Ramachandran
Aik Chindapol
Maximilian Riegel
Aeran Youn
Avinash Joshi
Robin Zheng

Wu Xuyong
Chang-Lung Hsiao
Arther Wang
Matthew Sherman
Youngho Kim
JunHyung Kim
Mike Hart
Sunil Vadgama
Charlie Zhang
Gang Shen
Roland Muenzner
Eckard Bogenfeld
N.K. Shankaranarayanan
Yousuf Saifullah
Chenxi Zhu
Byoung-Jo “J” Kim
Kevin Baum
Roger Peterson
Meng Zhao
Paul Piggin

Hujun Yin
Mark Thomas
David Mc’Ginniss
Jorjeta Jetcheva
Yoko Kurosawa
Kazuki Tani
Bahareh Sadeghi*
Sumeet Sandhu*
*not listed under .16 attendance list

To Do List Cont.

- After This Meeting towards Next #39 Meeting
  - Feedback Comments Summary
  - Discussions @ dot16.org
  - Proposal Revision as the discussion Base
- At the Next #39 Meeting
  - New Study Group Kick-off
  - PAR and 5 Criteria Preparation
- Reference Addition
- New SG Mailing List/Reflector Update

Attachments

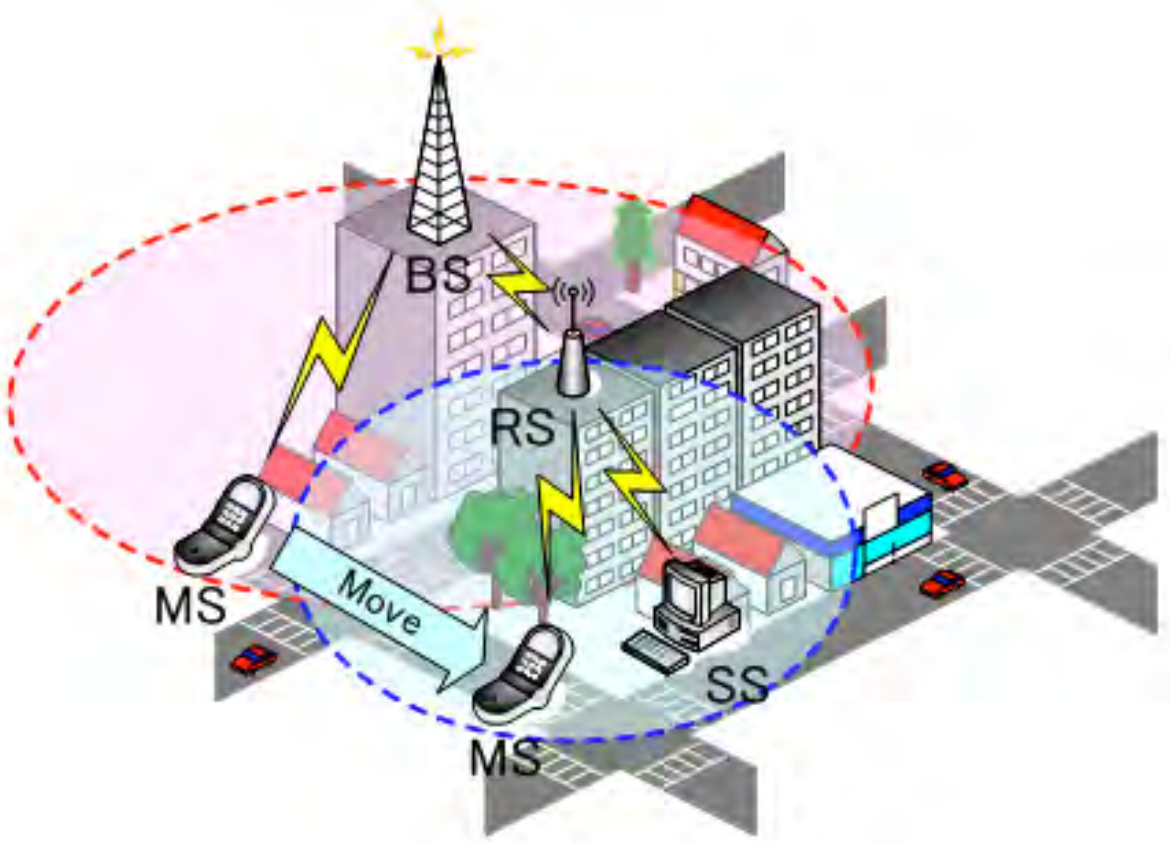
Mobile Multi-hop Relay Networking in IEEE 802.16

Mitsuo Nohara, Kenji Saito, Keizo Sugiyama, Hideyuki Shinonaga
KDDI R&D Laboratories Inc.
Jaeweon Cho, Jungje Son, Panyuh Joo, Hyeonwoo Lee
Samsung Electronics Co., Ltd.
Nat Natarahan, David T. Chen, Masahito Asa
Motorola Inc.
Jose P. Puthenkulam
Intel

18 July, 2005

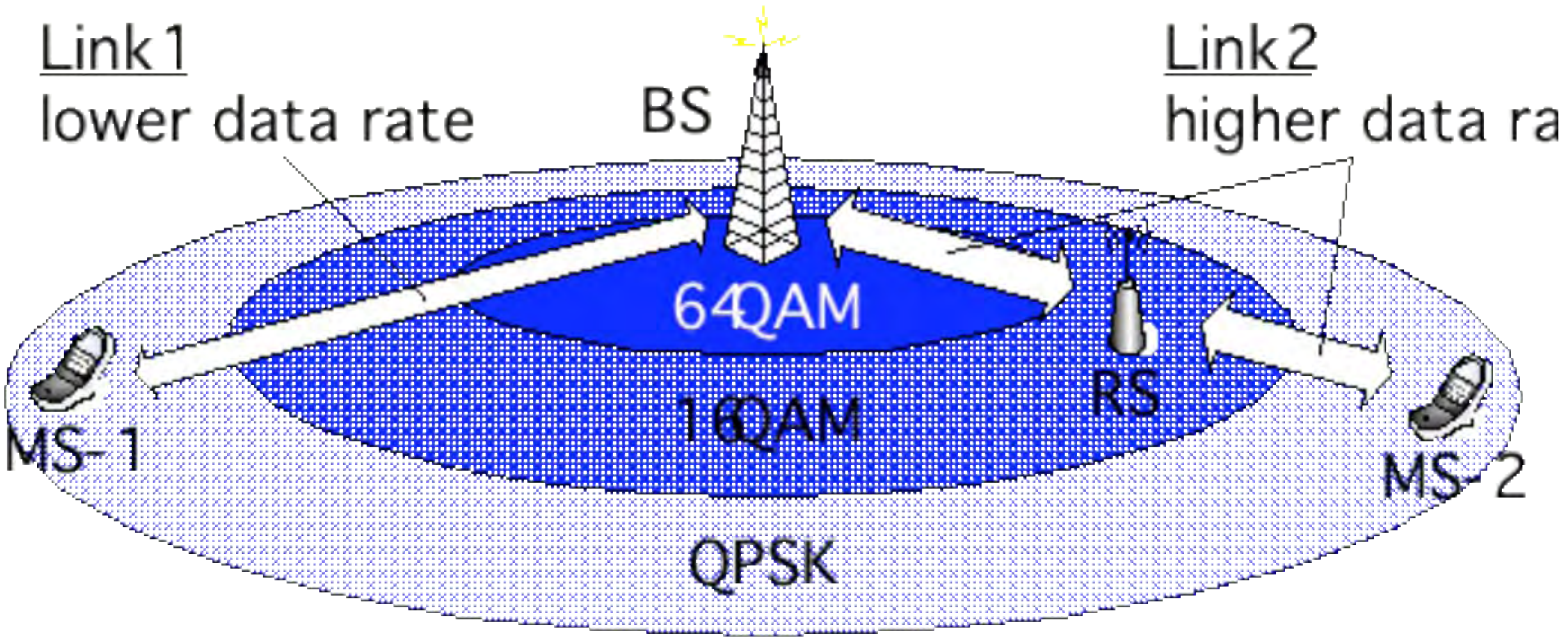
Scope of Proposed Relay Project

- **Develop Proposed Relay mode for fixed / mobile terminal**
  - **PHY: Enhance normal frame structure**
  - **MAC: Add new protocols for the Relay networking**



Purpose

- **Coverage extension**
  - **Expansion for coverage area**
- **Throughput enhancement**
  - **Higher throughput over multi-hop paths**



Main Features

- **Main features**
  - **Tree structure: one of the end of relayed data path should be at BS**
  - **Efficiently provide Relay connection to SS/MS (with small number of hops)**
  - **Support OFDMA as well as OFDM PHY mode**
  - **Backward compatible to PMP mode**
  - **PMP & Relay modes : share a same band, or use different but adjacent bands**
- **Considered RS types**
  - **Fixed Infra RS, Nomadic Infra/Client RS, Mobile Infra. RS**

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