PAN

^{1}, ^{2}, ^{3}, ^{4}

^{1234}

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Service Discovery in PAN

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PAN

.

PAN   ,

.

.

.

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Keyword : Wearable Computing, Mobile Computing, Service Discovery, PAN, BAN

1.   PAN   Wearable Technology

.

PAN

,

.   Ad-hoc

[1] [2] .

,

,

PAN(personal area network)   PAN

. PAN   10 m   .

,   , MP3,

3

PAN

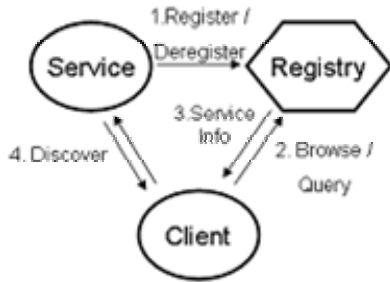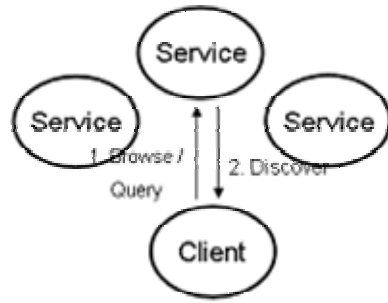LAN(local area network)   WAN(wide area network)   .

.   BAN(body area network)

2

2.1

Centralized Pull Method

그림 1. Centralized Pull Method

(Registry)

Entity   .

Register

Deregister   .

              .

              Jini   Lookup
    SLP   DA(Directory Agent)
           LAN   [5].
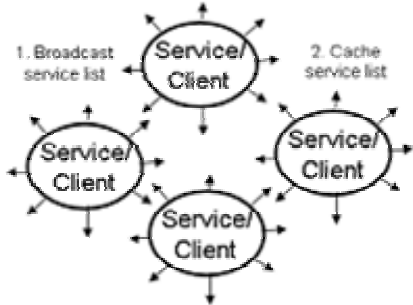
                                    [3][4].

                            그림 2

           .

     ,

                                    (e.g.
Register, Deregister)   .
     ,

                    subnet

(e.g LAN   ),

              .

Distributed Pull Method

그림 2. Distributed Pull Method

                    Centralized Pull Method

              .

                                          .

                            (i.e.   ) Broadcast Storm
                    .

                                          .

                    .

Distributed Push Method

              MANET(Mobile Ad-hoc Networks)

표 1.

네트워크 분류	네트워크 범위
원거리통신망(WAN: Wide Area Network)	0 - 10km
근거리통신망(LAN: Local Area Network)	0 - 100m
개인통신망(PAN: Personal Area Network)	0 - 10m

그림 3. Distributed Push Method

3.

PAN

PAN

Pull   Push

Peer-to-Peer Caching

[6].

2.2

(WPAN : Wireless Personal Area Network)

,

< 표 1>

, ,

Ad

Hoc   .

3.1

Join   ,

Disjoin

그림 4.

3-2 Join

그림 5. Join

Join 한다.

한다.

Updater

.

그림 4. 에서는

.
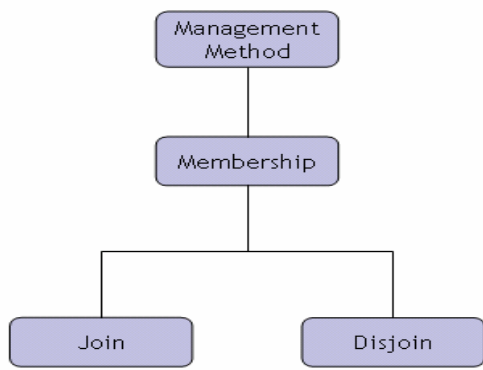
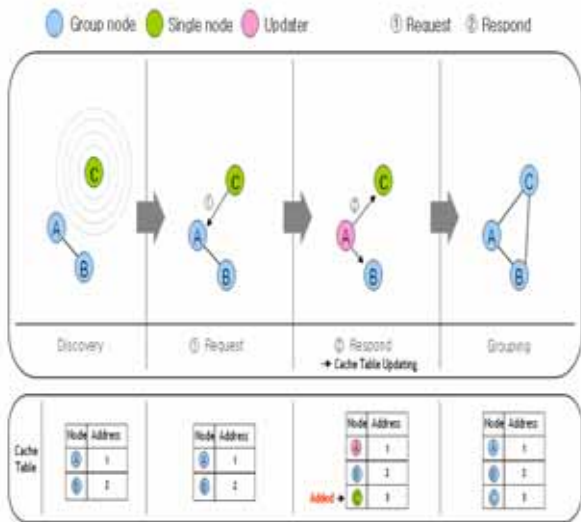### 3-2 Disjoin

(Normal Disjoin)

Updater

Disjoin   Updater

Disjoin

.

Updater   .

그림 6. Disjoin

4

4-1

.

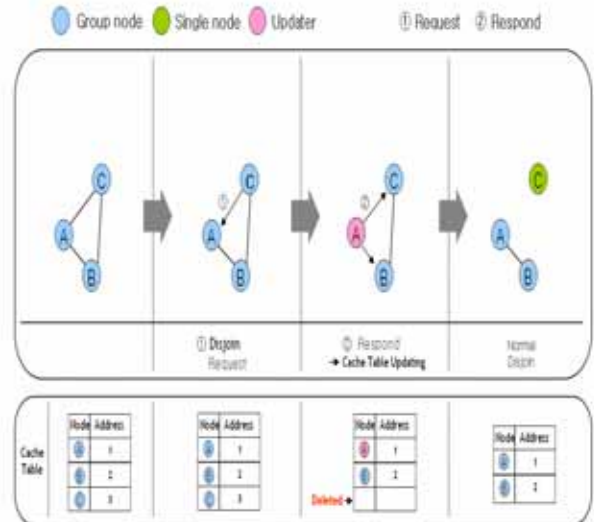AP   6   .

PAN

.

(N),

Response   Request   Ures, Ureq

Broadcast Request   Breq

.   Method   ,

Distributed Pull   , Distributed Push   .

              Centralized Pull   Push

                                    .

표 2.

Type	Definition
N	The Number of Nodes
Ures	Unicast for Response
Ureq	Unicast for Request
Breq	Broadcast for Request
Fbro	Frequency of Broadcast per 1 min
E	Event of message per 1 min

. Push

                                                                          Push

표 3.   Method

Method	Example
Proposal Method	
Distributed Pull Method	UPnP
Distributed Push Method	DEAPspace, Allia

                                    .

5.

                                    PAN

                                            ,

                                                        .

                PAN

                                    .

                                                                    .

4.2

                                                    Pull   Push

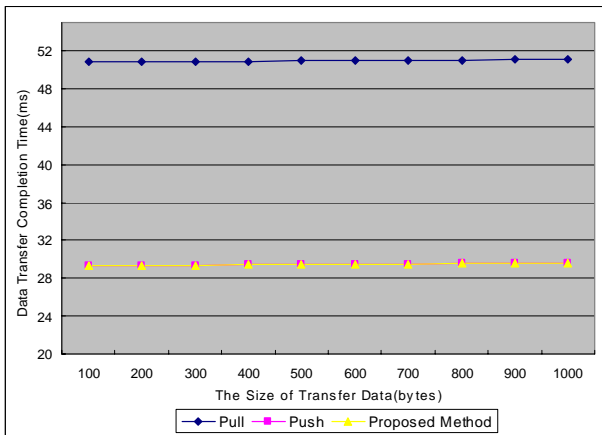   .

                        , NS2

                                    .

                                            (abnormal disjoin)

Pull, Push,   ,

그림 8.

                                                                            .

                                                                            BK21

Pull   On Demand   .

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