

# Resource allocation for Hot zone operation (Control and Traffic channel configuration for femtocell BSs and Hotzone BS)

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Venue:

TGm SDD: Femtocells

Base Contribution:

Purpose:

Discuss and adopt the proposed text for SDD

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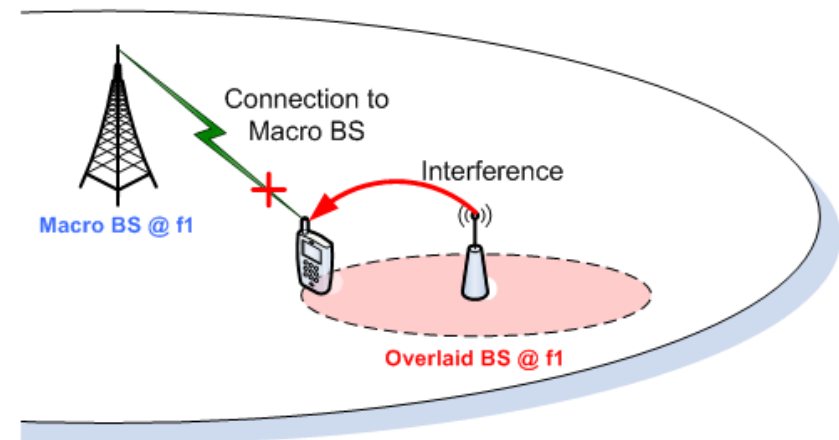
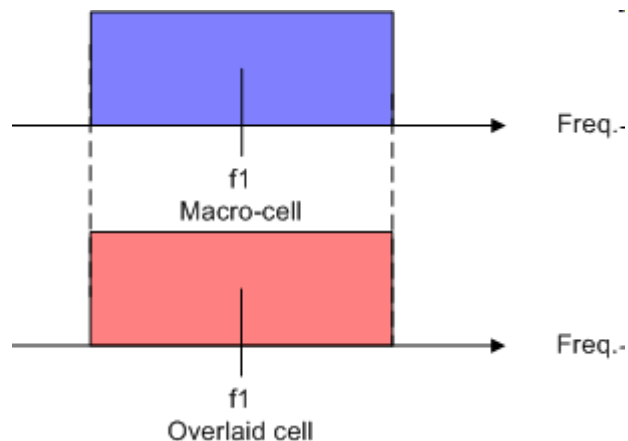
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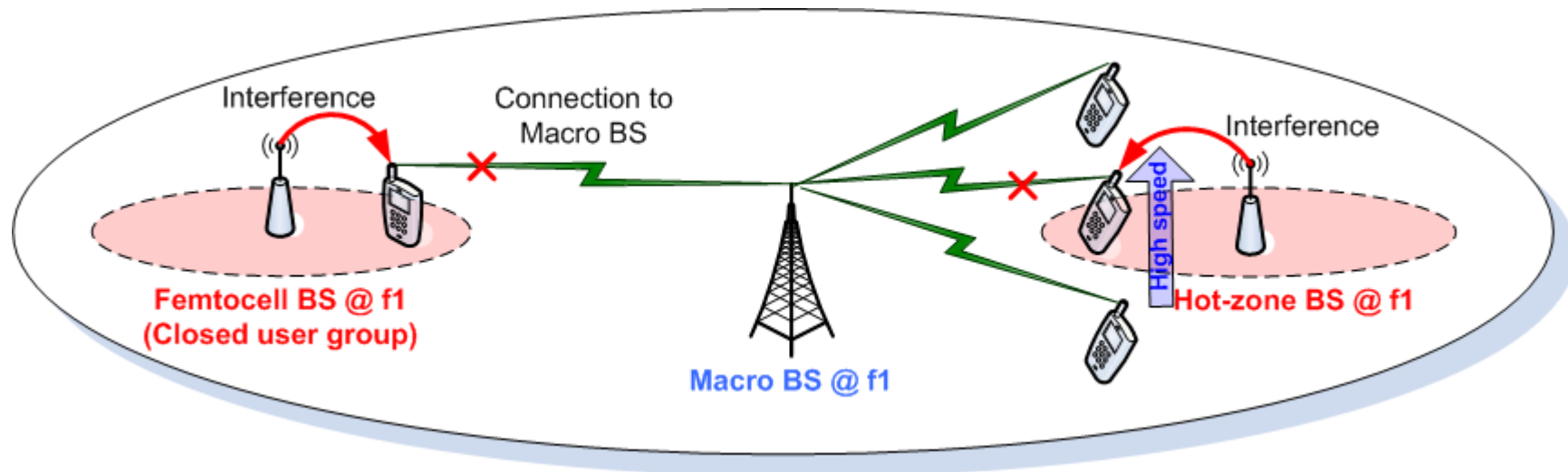
# Motivations (1/2)

- Overlaid cell **blocks signal reception from Macro BS**
  - Overlaid cells is interference source to Macro BS coverage
    - The same spectrum may be used for the cells
- Overlaid cells are inevitable
  - **Femtocell BSs** in other cell coverage
  - **Hotzone BSs** in macro coverage
    - Installed outside to support heavy traffic in spots within macro coverage
    - Allowing public access to increases system capacity



## Motivation 1/2

- Service **discontinuity to MSs in overlaid cell** coverage
  - A MS in non-allowed CUG<sup>1)</sup> femto cell BS
    - The MS can't make handover to the femtocell BS
  - A high speed MS in Hot zone coverage
    - Dwelling time at Hot zone may not be long enough to make HO
- **Need to keep connection** between macro BS and the MSs



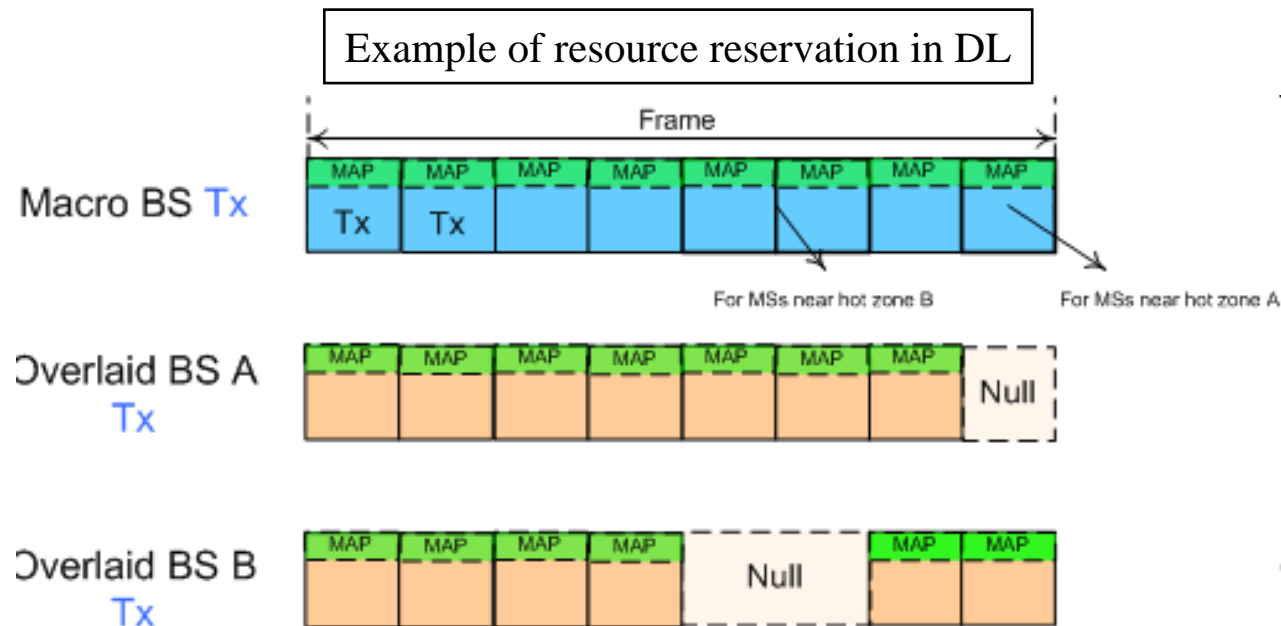
1) CUG: Closed User Group

# Proposed scheme

- Overlaid BSs reserve resources for MSs connected to Macro BS
  - Overlaid BS does not transmit signal in the reserved resource
  - Macro BS allocate the reserved resource to the MSs
- Femtocell BS
  - MS identifies non-allowed CUG femtocell BS
  - MS requests the serving BS to allocate the reserved resource if needed
- Hot zone BS
  - Two solutions
    - HO to hotzone BS
    - Use reserved resource to be connected to macro BS
  - Two schemes are used in hybrid manner depending conditions
    - MS detects Hot zone
    - MS decides whether it makes HO to Hot zone or keeps connection to BS
      - HO to hot zone: Normal HO procedure
      - Keeping connection to BS
        - Hot zone reserves resources
        - MS signals BS to allocate the reserved resources
        - BS allocates the reserved resources to the MS

# Example of reserved resources

- Overlaid BS reserves **subframes in DL**
  - It provides reliable reception of MAP and traffic from Macro BS
- Overlaid BS reserves resource in **FDM manner in UL**
  - It provides coverage in edge users



## Proposed text

**[Insert the following text]**

### **17.x Support of overlaid BS**

**A overlaid BS can reserve resource in cooperation with macro BS where the overlaid BS is overlaid. The reserved resource can be used to keep the connection between a MS in the overlaid BS cell coverage and the macro BS. MS can report macro BS to allocate the reserved resource of the overlaid BS.**