# Title: Consolidation of CSI-CMI - output of 16h_INTERF_ID Ad-Hoc|

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## Purpose:

# Consolidation of CSI-CMI - output of 16h_INTERF_ID Ad-Hoc

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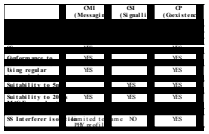
# Main issues

- Analysis of existing situation
- Functional proposal
- Timing proposal

# Comparison of the existing schemes



# Conclusion of the comparison

- Combine CSI and CMI
  - Possible if CSI will use absolute time scheduling
- Combine CMI and CP
  - Not possible: one, at absolute time and the other at flexible times
- Combine CSI and CP:
  - CSI should be at well-known absolute times because of the main usage: signalling of the IP address info

# Merging proposal - 1

- Create slots, at absolute times, to be used for DL and UL transmissions
- Name the series of slots “Control Channel”
- Control Channel properties
  - It is defined a multi-frame, with the duration T_MF = 60s; The multi-frame starts at the absolute time T_ABS_MF=00:30:00
  - The DL and UL slots are alternated
  - The duration of each slot will be 1(max.2) ms
  - The first 4 slots will be used for synchronization of the systems not having GPS visibility
    - Time, frequency, MAC Frame numbering

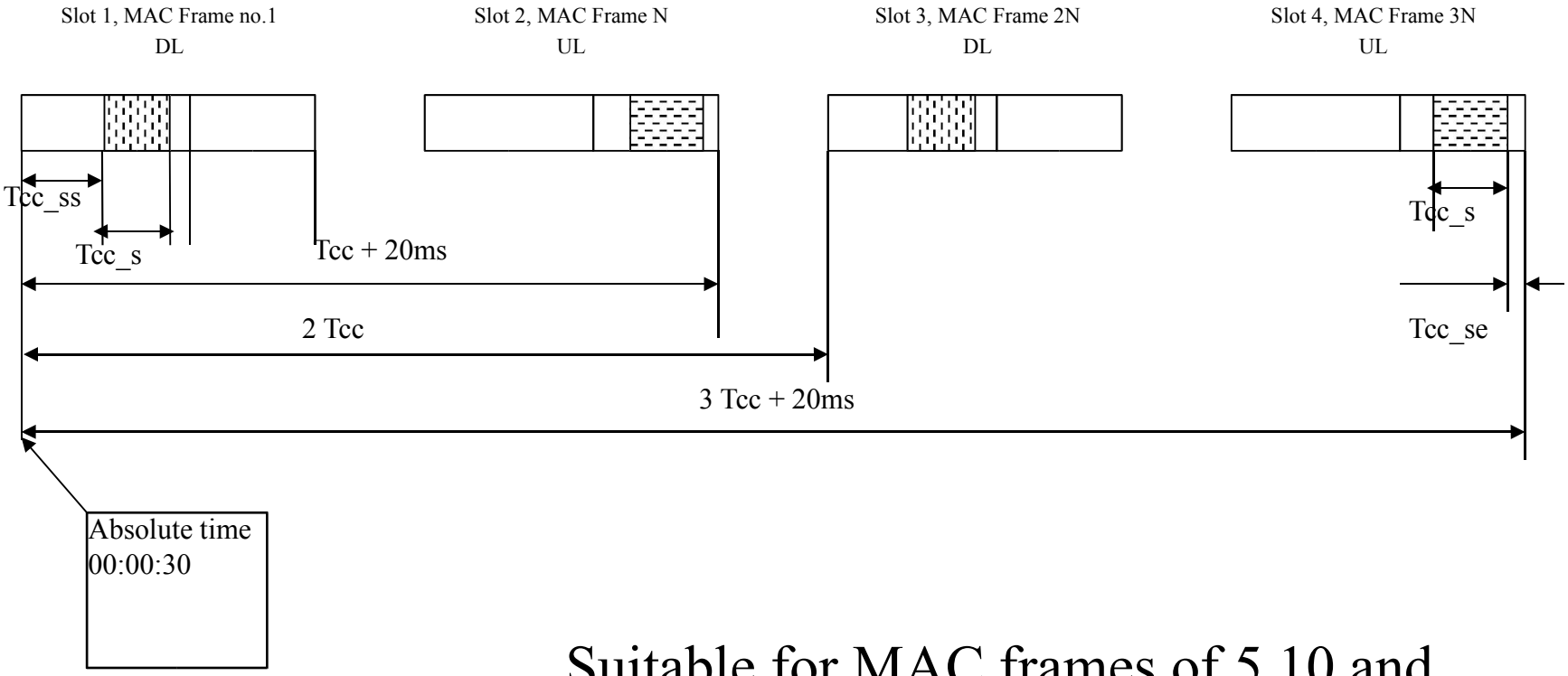
# Merging proposal - 2

- A BS transmission will use the DL slots (scheduled during the DL sub-frame)
- A SS transmission will use the UL slots (scheduled during the UL sub-frame)
- CMI will use
  - N_CMI_IBS consecutive slots for IBS; N_CMI_IBS =10
  - N_CMI_OBS consecutive slots for OBS; N_CMI_OBS =80
  - N_CMI_Non16 consecutive slots for IBS; N_CMI_Non16 =10
- CSI will use for IBS, IP info transmission only
  - N_CSI_E DL consecutive DL slots for time energy keying ; N_CSI_E=10?
  - N_CSI_F DL consecutive DL slots for frequency-keying CSI; N_CSI_F = 2?

# Merging proposal - 3

- The slots of 1ms duration will repeat every 100ms
  - DL and UL slots are alternated
    - For a 5ms MAC frame a DL slot will appear every 40 frames
    - For a 10ms MAC frame a DL slot will appear every 20 frames
- The slots will be scheduled as CXZ with the attributes:
  - DL/UL control channel
  - sync GPS, sync 2nd tier
  - CMI_IBS, CMI_OBS, CMI_non16
  - CSI_E, CSI_F

# Timing of the slots




Suitable for MAC frames of 5,10 and 20ms

# Conclusion

- The proposal allows to merge CMI and CSI and retain the main functionality
- It is defined the usage of 116 slots, with 1% overhead
  - May be actually more due to fragmentation
- In a 60s multi-frame there are 600slots
  - 484 slots may be used for BS-BS communication

Comments?