



# Analysis on how to address NEMO RO for Aeronautics Mobile Networks

draft-bernardos-mext-aero-nemo-ro-sol-analysis-01  
73<sup>rd</sup> IETF, Minneapolis, November 2008

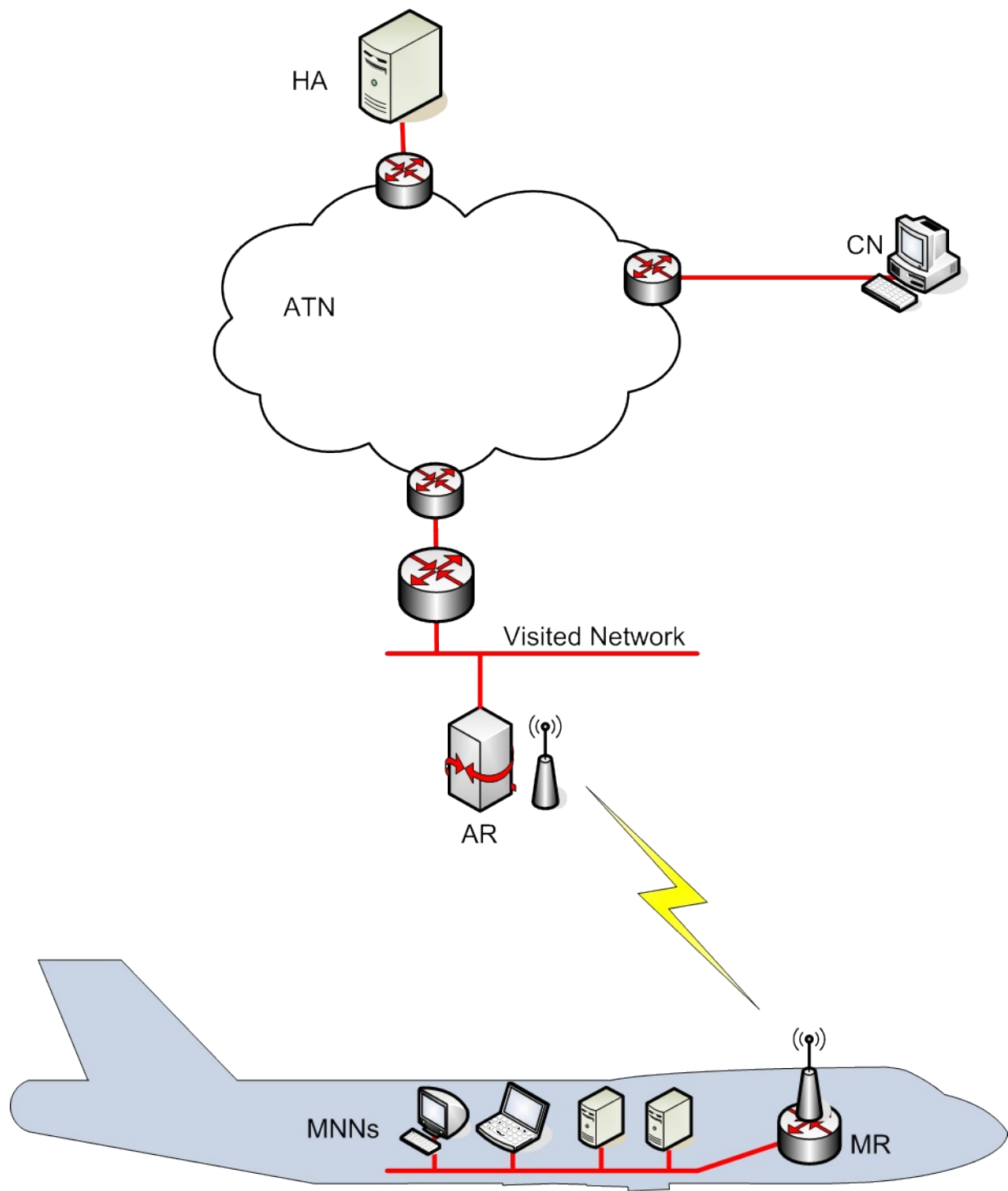
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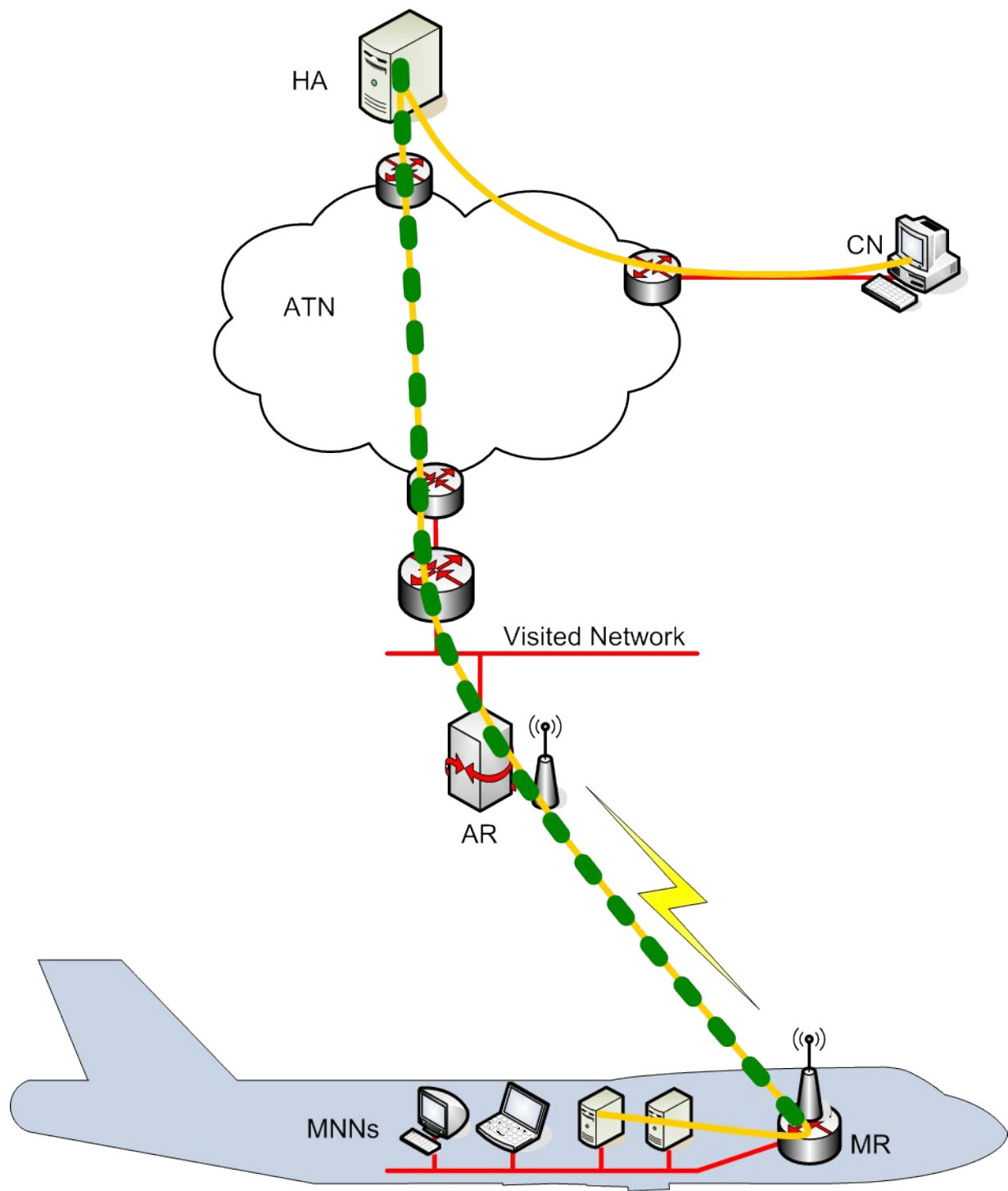
# Document rationale

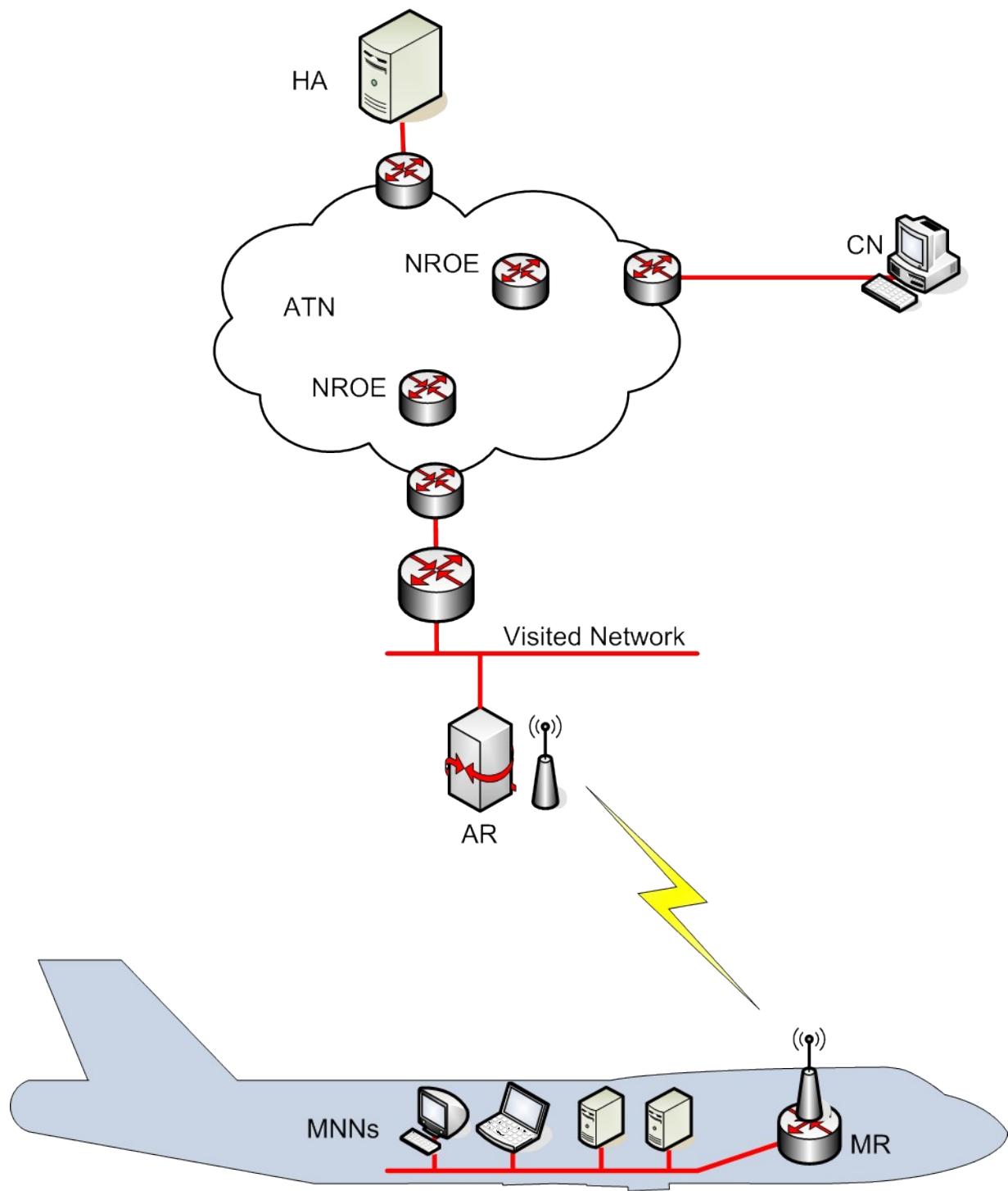
- We have a set of agreed NEMO RO requirements for the aeronautics use case
  - So, it's time to work on solutions
- Our draft analyses how a solution might look like
- The idea is that there are many possible approaches, each of them involving different trade offs
  - What are the right trade offs?
  - What assumptions can be safely assumed?

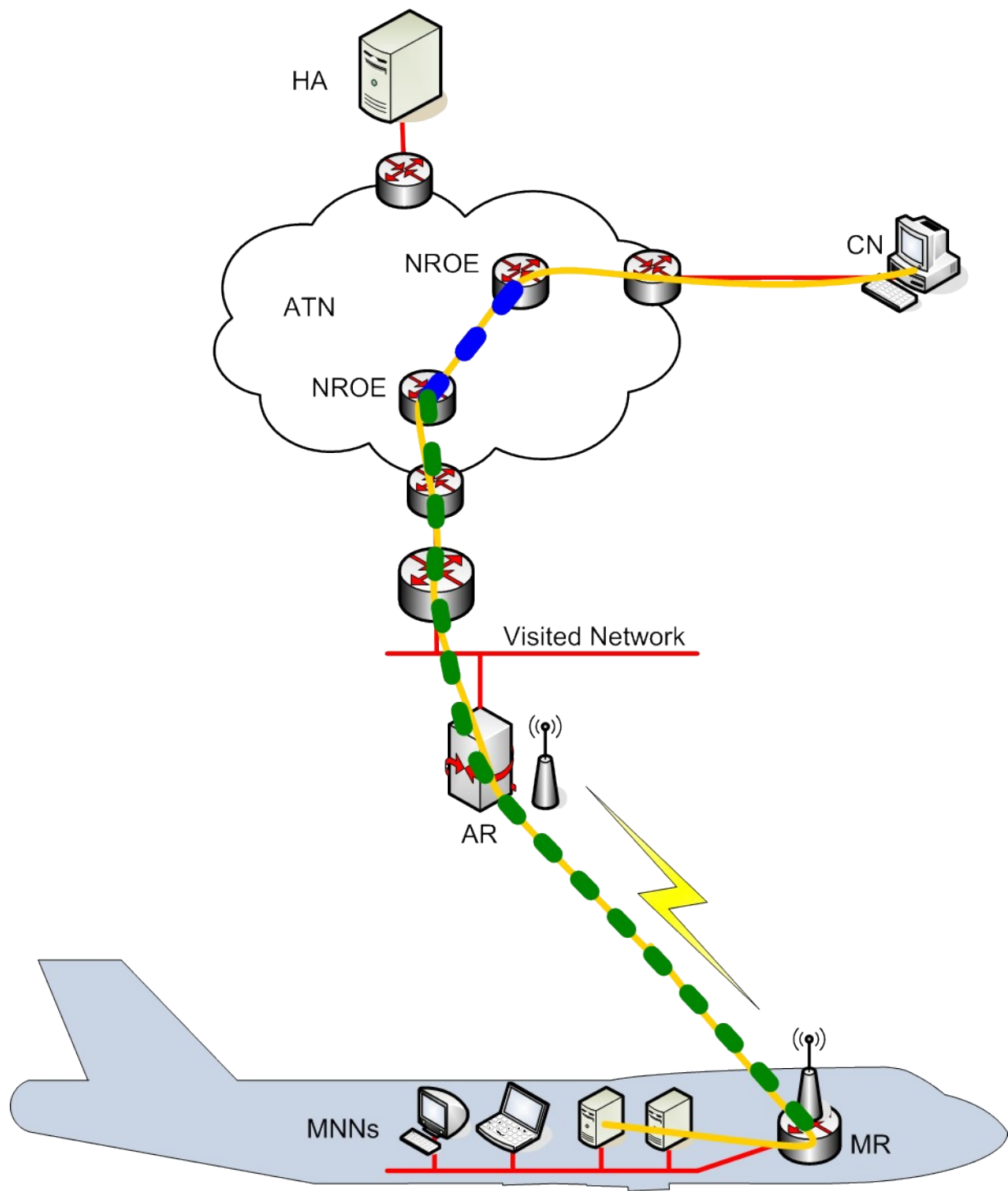
# Solution space analysis (I)

- From the requirements, a first conclusion is that a solution must not require changes on the CNs
  - The solution must provide RO with legacy CNs
  - That means that a solution would likely rely on some devices at the infrastructure performing the RO function between them or/and also the MR
    - An optimized route is set between two NROEs (NEMO RO Entities)
    - NROEs should be located close to the NEMO and the CN
    - A tunnel is established between the involved NROEs









# Solution space analysis (II)

- Different design decisions might result into completely different solutions
  - each of them meeting different requirements
  - and providing different features
- It is important to understand the impact of the design decisions and the involved trade-offs
- Some questions need answers from the aviation community in order to make progress in the solution design



# Design issues/questions/trade-offs (I)

- Where are the RO entities located?
- Who administratively manages the RO entities?
- Which kind of addresses are gonna be used and who own them?
- How many RO entities are needed to globally perform NEMO RO?
- What trust relationships are needed?
- Is the solution flexible enough to allow the participation of the end-nodes (CNs and/or MNNs)?

# Design issues/questions/trade-offs (II)

- Does the solution allow for a hierarchical scheme?
- What is the target protocol complexity?
- How is routing performed within the ATN?
- Does the solution allow for implementing legal/political/economical requirements?
- What is the robustness of the solution (i.e. what type of failure affects to the reachability)?

# TODO: what's next? 🤔

- We need feedback from the aviation industry
  - To understand better...
    - ...how the scenario looks like
    - ...which are the assumptions we can make
    - ...which are the trade-offs
    - ...which are the design decisions we should make
- Without this input it is not possible to work on valid solutions