Research Challenges in Coupling Artificial Intelligence and Network Management

draft-francois-nmrg-ai-challenges-00

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Refactoring of the google document

- Transformation of the document into an ID
  - Editorial team (5 key people) + contributors
  - Integrate feebdack received from the previous version (non ID)
  - Title changed: Coupling includes both AI for NM and NM for AI
  - Add missing content (where there was no contibution)
  - General revision of challenges to keep a similar level of details

Major edits

- 4. Difficult problems in network management
  - Constraint C3 was about time-efficient solutions. This has been extended in C6
  - *C6: Solutions MUST be cost-effective as resources (bandwidth, CPU, human, etc.) can be limited, notably when part of processing is distributed at the network edge or within the network.*
  - Extended description of possible / major scenario : traffic classification, IBN, VNF placement, admission control
- 7.3 AI with humans in the loop

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Next steps

- Identified possible changes
  - Integrate lightweight AI within distributed AI
  - Regarding *data challenges:* highlight the impact of labelled vs unlabbeled data in regards to supervised/unspervised/semi-supervised problems we have in NM
  - Adding legal / regulatory aspects of using AI (admissibility)

- Request feedback from the group
  - Value of the document for NMRG / community?
  - Format of the document?
  - Missing challenges?
  - Granularity of challenges?