# MOIMS-TEL Notes for Fall 2015 Technical Meeting

What follows is a summary of the discussions that took place at the meeting, and the actions that were assigned. In each case, the discussion “leader” or the person who assigned the action is indicated in parentheses. None of these items has yet been dispositioned.

* *Discussion*: Lower-limit is “increasing” with DLR seeing 500ms delay in haptic control. This limit is expected to increase with advances in control technology.
* **Action**: Expand on Section 3.3.1, “Low-Latency Operations” and move into the main body of the Green Book. Reference current latency research and describe information related to synchronization service, which is the “why” behind the inclusion of Low-Latency Operations in the Green Book
* *Discussion*: Explanation of video in METERON (the “early days”), as not yet completely reliable. (Toril Bye Rinnan)
* *Discussion*: “Super-fast” MPEG-4 encoders. (Rodney Grubbs)
* *Discussion*: Relevance of latency to this standard (Sarmad Aziz)
* **Action**: Re-add Suitability Service to the Green Book. (David Mittman)
* *Discussion*: Possibility of re-adding the tele-surgery use case, which was removed from the Green Book for the Zeroth Issue. (DLR, NASA/JSC, MDA)
* *Discussion*: Consider multiple Blue Books, covering distinctly different use cases / scenarios. (Osvaldo Peinado)
* *Discussion*: Suitability of video for the human operator, and what to do in case of increased delay. This is a strong candidate for the Suitability Service use case. (Toril Bye Rinnan)
* **Action**: Add a satellite-servicing scenario to the Green Book. (Jordi Artigas)
* **Action**: Reach out to GSFC to raise awareness of the inclusion of a satellite-servicing scenario. (David Mittman)
* *Discussion*: Frame Store Service (Section 3.2.3) and its relation to telepresence through support of image stitching. (David Mittman)
* **Action**: Add definitions of “telepresence” and “tele-manipulation” to the Lexicon. (Jordi Artigas)
* *Discussion*: Dmitry — Satellite constellation use case; referred to CESG. (Dmitry Marareskul)
* **Action**: Add Haptics to Figure 2, A strawman gap analysis. (Not assigned)
* **Action**: Add Voice to Figure 2, A strawman gap analysis. (Not assigned)
* **Action**: Add robot-to-robot connection in Figure 1, Telerobotic end-to-end model, to match the phrase “other robotic devices” in item number 1 in the paragraphs following Figure 1. (Jens Pfau)
* **Action**: Add a robot-to-robot task support scenario. Potentially add to “swarm” scenario, Section 3.1.1.4, Control of Multiple Agents Simultaneously. (Dmitry Marareskul)
* **Action**: Review NASREM and consider it as a way of hierarchically structuring services in the document. (Gianfranco Visentin)
* *Discussion*: The Real-time Control System (RCS) reference model architecture and its relevance to this effort. History from RCS-1, NASREM RCS-3, and NIST RCS-4. (Gianfranco Visentin)
* *Discussion*: ISS latency of 700ms over “nominal channels.” (Tom Rich)