Design of the KOMPSAT-2 Mission Analysis and Planning System

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The Mission Analysis and Planning System (MAPS) of the Korea Multi-purpose Satellite-2 (KOMPSAT-2) Mission Control Element (MCE) provides the off-line functions of the spacecraft ground operations such as orbit determination, event prediction, orbit maneuver planning, mission scheduling, and command planning. The KOMPSAT-2 MAPS is made up of four functional blocks such as mission analysis, mission planning, precise orbit determination, and system management. The mission analysis block is mostly inherited from the KOMPSAT-1 MAPS. Whereas, the mission planning and system management blocks are newly designed using Object Orient Design (OOD) methodology. The precise orbit determination block, which is a new function block for the KOMPSAT-2, follows the traditional procedural design approach. The hardware and software architectures of the KOMPSAT-2 MAPS are designed in order to satisfy the requirements for the functions, interfaces, performances, and quality assurances described in the KOMPSAT-2 MCE MAPS specifications. This presentation is mainly concerned about the MAPS functions, interfaces, architecture design, and operational capabilities.
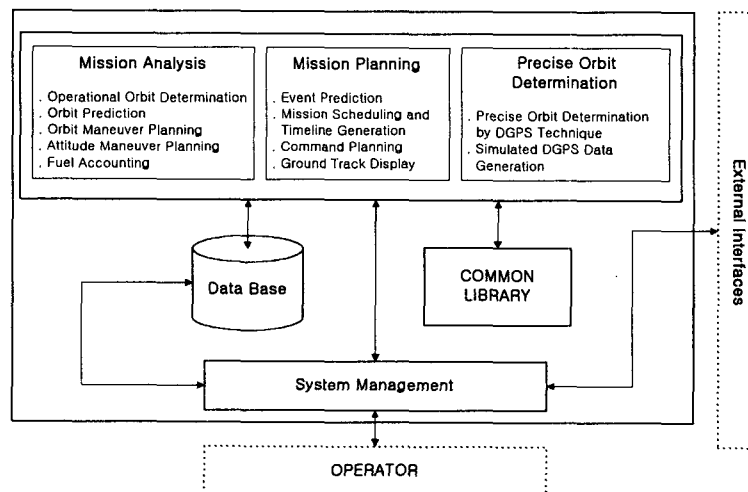

Figure. Functional architecture of the KOMPSAT-2 MAPS